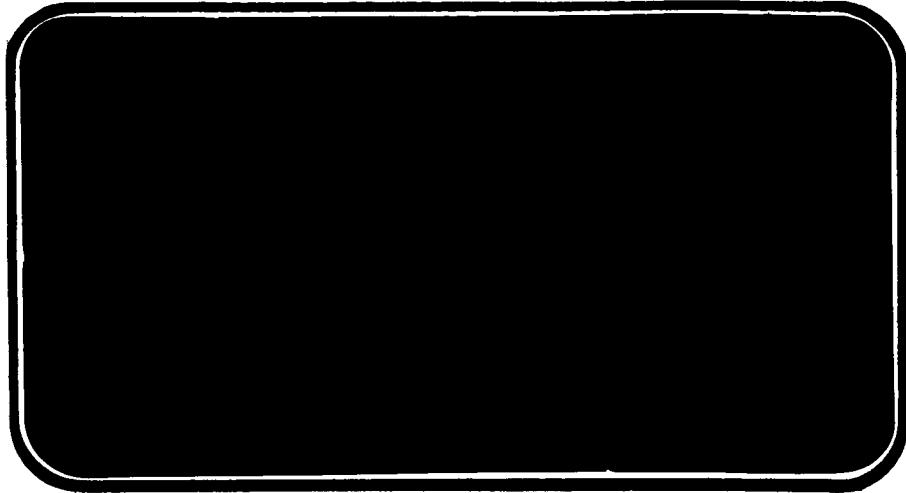




National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas 77058



SPACE SHUTTLE AEROTHERMODYNAMIC DATA REPORT

(NASA-CR-160845) INVESTIGATION ON
LONGITUDINAL AND LATERAL-DIRECTIONAL
AERODYNAMIC CHARACTERISTICS FOR A 2 PERCENT
(MODEL 105-0) SPACE SHUTTLE, ORBITER
(VEHICLE 102) IN THE LaRC UPWT AT MACH

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Data ManAGEMENT SERVICES

HUNTSVILLE ELECTRONICS DIVISION  **CHRYSLER**
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INVESTIGATION OF LONGITUDINAL AND LATERAL-
DIRECTIONAL AERODYNAMIC CHARACTERISTICS FOR A
2 PERCENT (MODEL 105-0) SPACE SHUTTLE ORBITER
(VEHICLE 102) IN THE LARC UPWT AT MACH NUMBERS
FROM 2.5 TO 4.5
(LA125)

Prepared under NASA Contract Number NAS9-16283

by

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for

Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number: LaRC UPWT 1243
NASA Series Number: LA125
Model Number: 105-Ø
Test Dates: July 7 to July 12, 1978
Occupancy Hours: 48

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INVESTIGATION OF LONGITUDINAL AND LATERAL-DIRECTIONAL
AERODYNAMIC CHARACTERISTICS FOR A 2 PERCENT (MODEL 105-0)
SPACE SHUTTLE ORBITER (VEHICLE 102) IN THE
LARC UPWT AT MACH NUMBERS FROM 2.5 TO 4.5 (LA125)

ABSTRACT

Experimental aerodynamic investigations were conducted in the NASA/LaRC UPWT from July 7 to July 12, 1978 on a 0.02 scale model of the space shuttle orbiter vehicle 102. The primary objective of the test was to obtain lateral-directional aerodynamic characteristics of the orbiter over a Mach number range from 2.5 to 4.5. Six component force and moment data were recorded over the Mach range at a constant freestream Reynolds number of 2 million per foot. Angle of attack varied from -1° to 20° at constant sideslip angles of 0° or 2° . Sideslip angles varied from -6° to 4° at selected constant angles of attack between 3.5° and 20° . The only configuration variable tested was speedbrake deflection of 25° , 55° and 87.2° . All other aerodynamic controls were neutral.

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SCHEDULE COEFFICIENTS PLOTTED

- (A) C_L vs α , C_D vs α , L/D vs α , C_A vs α , C_m vs α , C_n vs C_N , C_1 (BODY) vs α , C_n (BODY) vs α , C_Y vs α
- (B) C_Y vs β , C_1 (BODY) vs β , C_n (BODY) vs β
- (C) $C_{1\beta}$ (BODY) vs α , $C_{n\beta}$ (BODY) vs α , $C_{Y\beta}$ vs α

NOMENCLATURE
General

<u>SYMBOL</u>	<u>MNEMONIC</u>	<u>DEFINITION</u>
a		speed of sound; m/sec, ft/sec
C _p	CP	pressure coefficient; $(p_1 - p_\infty)/q_\infty$
M	MACH	Mach number; V/a
P		pressure; N/m ² , psf
q	Q(NSM) Q(PSF)	dynamic pressure; $1/2\rho V^2$, N/m ² , psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
ϕ	PHI	angle of roll, degrees
ρ		mass density, kg/m ³ , slugs/ft ³

Reference & C.G. Definitions

A _b		base area; m ² , ft ²
b	BREF	wing span or reference span; m, ft
c.g.		center of gravity
$\frac{l}{c}$ _{REF}	LREF	reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; m ² , ft ²
	MRP	moment reference point

NOMENCLATURE (Continued)

<u>SYMBOL</u>	<u>MNEMONIC</u>	<u>DEFINITION</u>
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis

SUBSCRIPTS

b	base
l	local
s	static conditions
t	total conditions
∞	free stream
c	balance cavity

Body-Axis System

C_N	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
C_A	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_{A_b}	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(p_b - p_\infty)/qS$
C_{A_f}	CAF	forebody axial force coefficient, $C_A - C_{A_b}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS_L \text{REF}}$

NOMENCLATURE (Continued)

<u>SYMBOL</u>	<u>MNEMONIC</u>	<u>DEFINITION</u>
C_n	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS_b}$
C_ℓ	CBL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS_b}$

Stability-Axis System

C_L	CL	lift coefficient; $\frac{\text{lift}}{qS}$
C_D	CD	drag coefficient; $\frac{\text{drag}}{qS}$
C_{D_b}	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
C_{D_f}	CDF	forebody drag coefficient; $C_D - C_{D_b}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS_\ell \text{REF}}$
C_n	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS_b}$
C_ℓ	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS_b}$
L/D	L/D	lift-to-drag ratio: C_L/C_D
L/D	L/DF	lift to forebody drag ratio; C_L/C_{D_f}
δ_a	AILRON	aileron, total aileron deflection angle, degrees, [(left elevon - right elevon)/2]
δ_e	ELEVON	elevon deflection angle, positive deflection trailing edge down, degrees

NOMENCLATURE (Concluded)

<u>SYMBOL</u>	<u>MNEMONIC</u>	<u>DEFINITION</u>
δ_R	RUDDER	rudder deflection angle, positive deflection trailing edge left, degrees
δ_{BF}	BDFLAP	body flap deflection angle, positive deflection trailing edge down, degrees
δ_{SB}	SPDBRK	speed brake deflection angle, total included angle, degrees

TEST CONDITIONS

The investigation was conducted in the high Mach number test section (Leg 2) of the NASA-Langley Unitary Plan Wind Tunnel at Mach numbers of 2.5, 3.0, 3.5, 4.0 and 4.5. Free-stream Reynolds number for the investigation was 2 million per foot or 4.30×10^6 based on the fuselage reference length. An internally mounted six-component strain-gage balance (LARC-840) was used to measure aerodynamic forces and moments acting on the model. Corrections have been applied to the angles of attack and sideslip to account for sting and balance deflections produced by aerodynamic loads on the model.

Transition strips were applied behind the leading edges of all model components using singly spaced Carborundum grains having a nominal grain diameter of 0.061 cm. The streamwise locations of the transition strips were 3.05 cm behind the fuselage nose and 1.02 cm behind the leading edges of all wing and vertical tail surfaces. These applications can be seen in Figure 3.

Table I delineates the prevalent tunnel conditions and gives pertinent data concerning the balance. Table II collates and groups the runs by Mach number and configuration into datasets for ease in computer data handling.

CONFIGURATIONS INVESTIGATED

The test article was a 0.02-scale replica of the space shuttle orbiter vehicle 102, designated model 105-0 (modified model 89-0). This vehicle is described by the Rockwell International VC70-000002 configuration control drawing and was fabricated to the March 15, 1976, OML configuration, numerical control lines. These lines were derived from the design entry trajectory 14414.1, Revision C/C. The thermal protection system (TPS) for these lines is based on the usage of silicon reusable surface insulation (SRSI).

The orbiter model is of a blended wing/body design with a double delta planform ($81^{\circ}/45^{\circ}$ leading edge) wing of 12 percent thickness and fullspan elevons with gaps between the outboard and inboard panels and between the inboard panel and the fuselage. A single centerline vertical tail with rudder/speed brake capability is mounted between the orbital maneuvering system (OMS) pods on the aft fuselage, and a body flap is fitted to the lower trailing edge of the fuselage. Orbiter geometry is shown in Figure 2a.

The main propulsion system (MPS) nozzles are simulated, but are trimmed to clear the sting support through the base. The OMS nozzles and all reaction control system (RCS) thruster ports in the forward fuselage and OMS pods are simulated.

CONFIGURATIONS INVESTIGATED (Continued)

Fuselage outer mold line (OML) penetrations and protuberances which are simulated include:

- * Recessed windshields, hatch, and observation windows
- * Simulated forward and aft RCS nozzles
- * Cargo bay door hinges
- * T-zero umbilical panels
- * Vents: cargo bay, forward RCS, wing flipper door, OMS RCS, and aft fuselage
- * Spanwise steps: Vertical tail/rudder and body flap

The model is constructed entirely of Armco 17-4 stainless steel to withstand the environment of high temperature tunnels. The mid/aft upper fuselage is fabricated from a single block with a longitudinal bore into which balance or waterjacket adapters can be inserted. The OMS pods are an integral part of this block. The vertical tail is a separate piece which mounts on top of this block. The nose/forward fuselage is fabricated as a hollow shell. The wing/lower fuselage is composed of a single piece with separate control surface components. A two-piece aft fuselage block/base plate incorporates the simulated MPS nozzles, aft RCS pods, and simulated OMS nozzles. Model weight is approximately 96 pounds, including balance adapter, with a center of gravity location at approximately model station X_0 21.50.

All control surface positions are set manually. Separate elevon bracket components have been fabricated for each elevon/aileron deflection angle. The available elevon brackets are, for the left side (inboard and outboard): -35, -20, -10, -5, 0, +5, +10, and +20 degrees; and for the right

CONFIGURATIONS INVESTIGATED (Continued)

side (inboard and outboard): -35, -30, -20, -15, -10, -5, 0, +5, +10, and +20 degrees. These are nominal values. Measured values are given in Table III. Only 0° elevon/aileron setting was utilized during this test.

The body flap is attached to the base of the orbiter with a bracket mounted to the top of the body flap and the baseplate of the model. Separate brackets are provided for nominal body flap deflection angles of -11.7, 0, 16.3, and 22.5 degrees. Measured values are given in Table III. As with the elevons, only 0° bodyflap deflection was tested during this study.

Separate model components are provided for speed brake settings of 0, 25, 55, and 87.2 degrees. Each speed brake can be pinned at rudder deflection angles of 0, 2.5, 5, 11.28, and 22.8 degrees, with the exception that the 87.2 degree speed brake is limited to a maximum rudder deflection angle of 11.28 degrees. The above are nominal settings. Measured values are given in Table III. Rudder deflection remained at zero while speed brake deflections of 25, 55 and 87.2 degrees were investigated for this test.

The following nomenclature, illustrated in Figures 2b and 2c, was used to designate model components:

<u>Symbol</u>	<u>Description</u>
B75	OV102 fuselage including T-zero umbilical panels, crew hatch, and cargo bay door gaps.

CONFIGURATIONS INVESTIGATED (Continued)

<u>Symbol</u>	<u>Description</u>
C ₁₆	Canopy including recessed windshields and observation windows.
E ₆₄	Elevons, including elevon/elevon and elevon/fuselage gaps.
F ₁₆	Body flap.
FR ₂₂	Fairings for the forward cargo bay door hinges, 6 per side.
HG ₁	Cargo bay door hinges, 13 per side.
M ₅₂	OMS pods.
N ₁₀₈	Forward RCS thruster nozzle ports.
N ₁₀₉	Main propulsion system nozzles (inner surfaces cut away for sting clearance).
N ₁₁₀	OMS nozzles.
N ₁₁₁	Aft RCS thruster nozzles and ports.
R ₂₀	Rudder, split into left and right speed brake panels.
V ₂₇	Vertical tail.
VT ₁₀	Cargo bay vents, 4 per side.
VT ₁₁	Wing/landing gear bay vents, 1 per side.
VT ₁₂	Cabin vents, 1 per side.
VT ₁₃	Forward RCS vents, 1 per side.
VT ₁₄	Aft fuselage vents, 1 per side.
VT ₁₅	OMS RCS vents, 1 per side.
VT ₁₆	Flipper door vents.

CONFIGURATIONS INVESTIGATED (Concluded)

<u>Symbol</u>	<u>Description</u>
VT ₁₇	Miscellaneous vents, ports and penetrations.
W ₁₃₁	OV102 wing.

Angular definitions for control surface deflections are shown in Figure 1b.

TEST FACILITY DESCRIPTION

The NASA LaRC 4-foot Unitary Plan Wind Tunnel (UPWT) is a closed-circuit continuous flow, variable density facility. The test section is 4 feet by 4 feet by 7 feet long.

Two tunnel legs are available for supersonic testing in the Mach number ranges 1.47 to 2.86 (Leg N.. 1) and 2.29 to 4.63 (Leg No. 2). Leg No. 2 was used for this test. An asymmetric, sliding block nozzle position and total pressure setting provide the test Mach numbers at a specified Reynolds number. Reynolds number can be varied from 0.76 to 7.78 million per foot. Available stagnation pressure variation is 4.0 to 142 psia. Dynamic pressure variation is 95 to 1260 psf with normal operating stagnation temperature about 150°F in Mach modes 2 or 3 and about 175°F in Mach mode 4. The tunnel is equipped with a dry air supply, an evacuating system, and a cooling system. The facility power is approximately 83,000 horsepower.

Model mounting provisions consist of various sting arrangements, including axial (longitudinal), lateral (independent pitch and yaw), and roll movement with side wall support. A Schlieren system and oil flow visualization equipment are available. Data are recorded at the tunnel and reduced off-line at the Langley Computer Center. The tunnel is used for force and moment, pressure, and dynamic stability tests. Hot and cold jet effects and heat transfer have been studied in the UPWT.

DATA REDUCTION

Standard LaRC methods were used for computing tunnel parameters, model attitudes, and balance forces and moments. Model force and moment data were reduced to coefficient form in both body and stability axes systems, using orbiter wing dimensions as non-dimensionalizing factors. Axes systems are defined in Figure 1a. Moment data were reduced about a moment reference center corresponding to sixty-five (65) percent of the reference body length at Waterline 375. Although balance cavity and model base pressures were measured, axial force was not corrected for these effects. Model angles-of-attack and sideslip were corrected for support hardware deflections.

The moment reference center (M.R.C.) is given below:

	<u>Model Scale</u>	<u>Full Scale</u>
X _o , inches	21.534	1076.68
Y _o , inches	0	0
Z _o , inches	7.500	375.0

The balance center was located one-half inch above the M.R.C. at the model station given below:

	<u>Model Scale</u>	<u>Full Scale</u>
balance: X _o , inches	24.090	1204.5
Y _o , inches	0	0
Z _o , inches	8.00	400

TABLE I

TEST : LA125

DATE : 7/7/18

TEST CONDITIONS

BALANCE UTILIZED:

LAKC Balance * 8/10 w/ UPWT String * 72

	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
NF	<u>800#</u>	<u>$\pm 4^{\#}$</u>	<u>N/A</u>
SF	<u>250#</u>	<u>$\pm 1.2^{\#}$</u>	
AF	<u>125#</u>	<u>$\pm .62^{\#}$</u>	
PM	<u>1600 in:#</u>	<u>$\pm 8 \text{ in}^{\#}$</u>	
RM	<u>500 in:#</u>	<u>$\pm 2.5 \text{ in}^{\#}$</u>	
YM	<u>500 in:#</u>	<u>$\pm 2.5 \text{ in}^{\#}$</u>	

COMMENTS:

TABLE II

TEST : LH125 UPUT#2. 1243

DATASET RUN NUMBER COLLATION SUMMARY

DATE : JULY 12, 1978

18

* D232

NASA-MSFCC-MAF

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TABLE II (Concluded)

SCHEDULES

TABLE III. MEASURED CONTROL SURFACE DEFLECTION ANGLES

Elevons

Nominal Angle	Measured Angle			
	L. H. Outboard	L. H. Inboard	R. H. Inboard	R. H. Outboard
+20	20.24	20.25	20.30	20.30
+10	10.11	10.14	10.12	10.02
+ 5	4.88	4.93	4.93	4.93
0	0	0	0	0
- 5	-4.76	-4.82	-4.82	-4.76
-10	-9.32	-9.38	-9.33	-9.44
-15	---	---	-14.37	-14.42
-20	-20.40	-20.40	-20.43	-20.40
-30	---	---	-29.81	-29.80
-35	-34.89	-34.89	-34.90	-34.82

Body Flap

Nominal Angle	Measured Angle
22.5	22.62
16.3	16.38
0	0
-11.7	-11.53

Speed Brake/Rudder

Nominal Speed Brake Angle	Measured Speed Brake Angle	Measured Rudder Angles at Nominal Rudder Angles of:				
		0	2.5	5.0	11.28	22.8
0	0	0	2.56	5.26	11.41	23.58
25	25.50	-0.025	2.53	5.24	11.39	23.55
55	54.57	0.057	2.62	5.32	11.47	23.64
87.2	86.81	-0.038	2.52	5.22	11.38	---

Notes:

- Positive directions of force coefficients, moment coefficients, and angles are indicated by arrows
- For clarity, origins of wind and stability axes have been displaced from the center of gravity

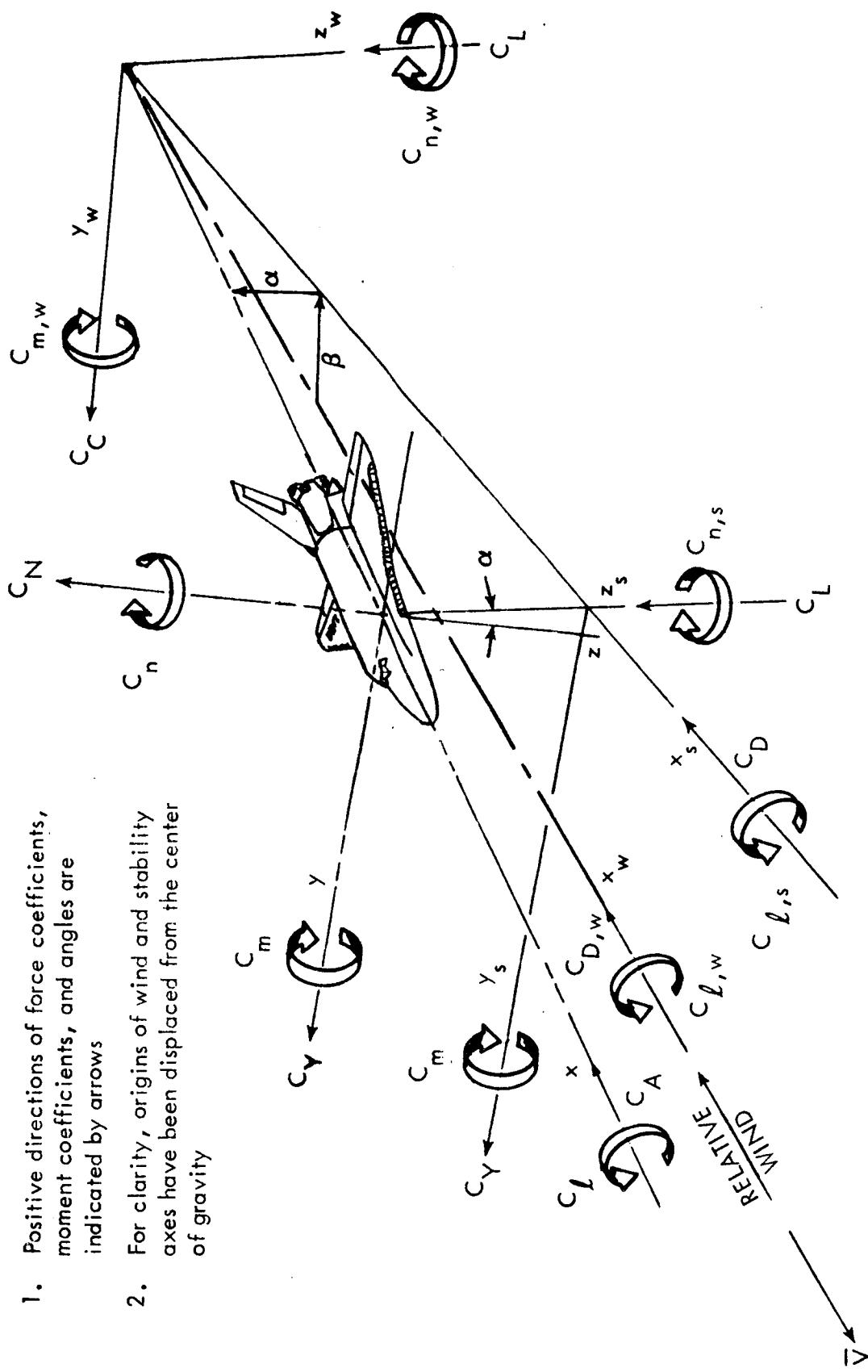


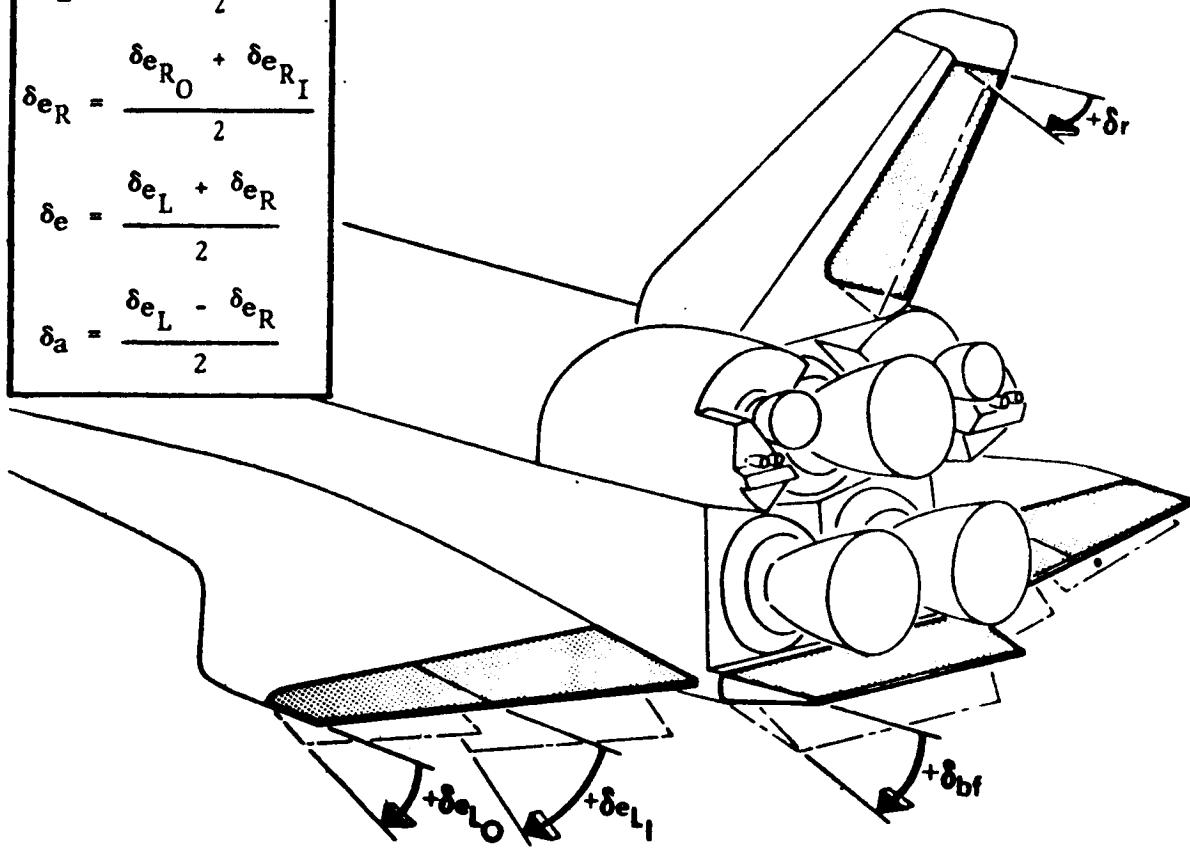
Figure 1. Axis Systems and Sign Conventions
a. Axis Systems

$$\delta e_L = \frac{\delta e_{L_0} + \delta e_{L_I}}{2}$$

$$\delta e_R = \frac{\delta e_{R_0} + \delta e_{R_I}}{2}$$

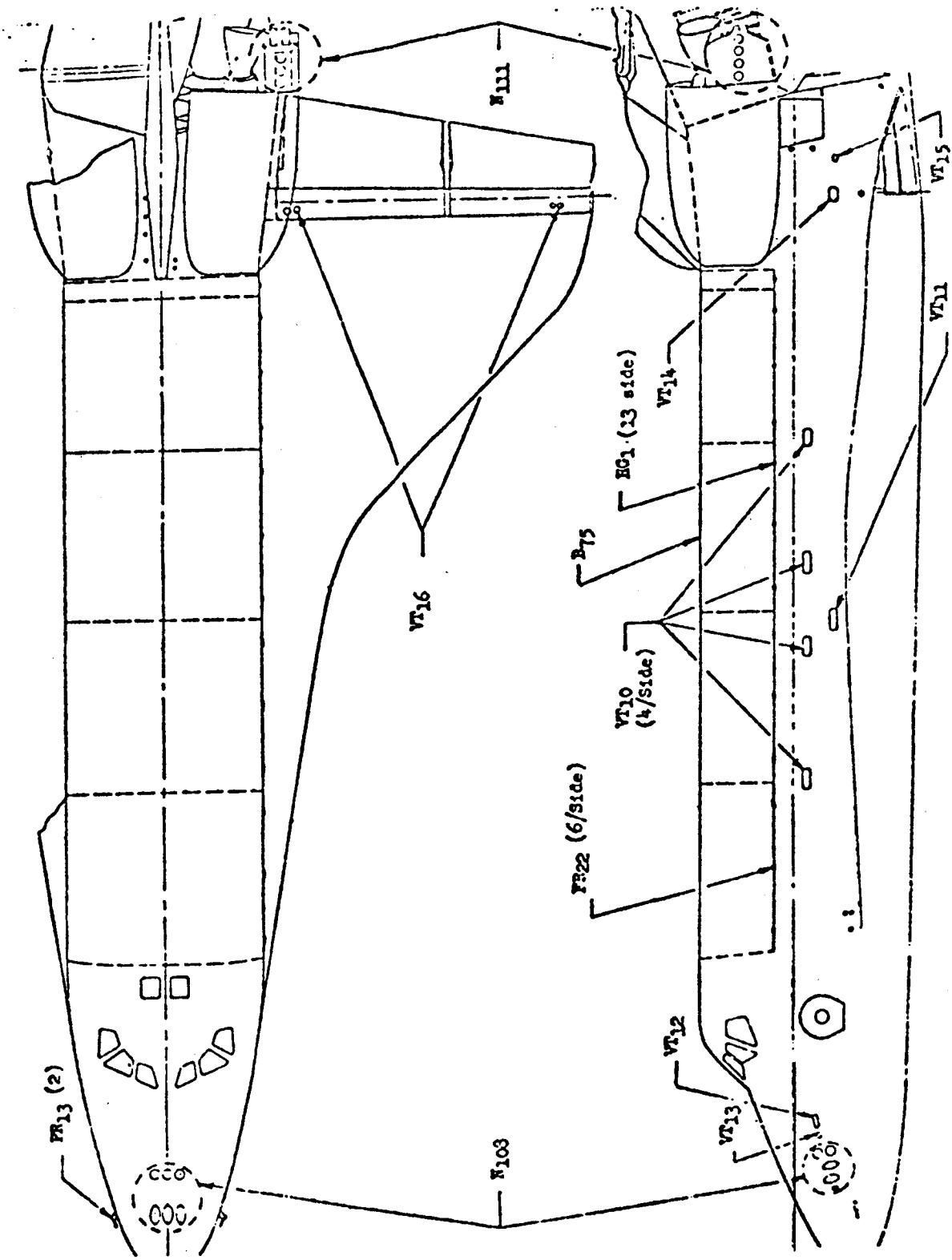
$$\delta e = \frac{\delta e_L + \delta e_R}{2}$$

$$\delta a = \frac{\delta e_L - \delta e_R}{2}$$

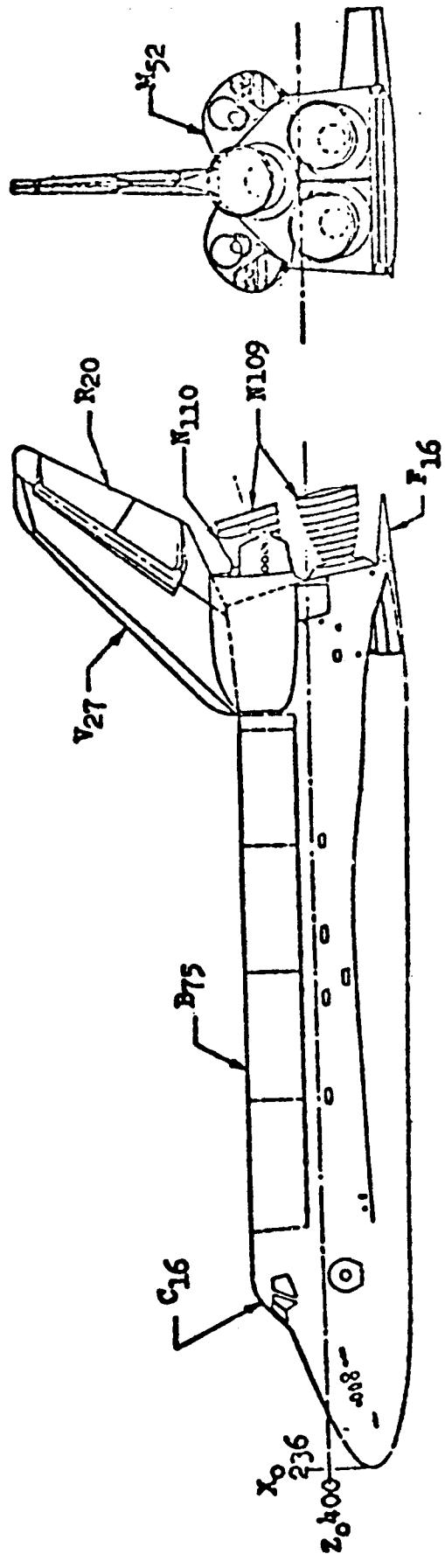
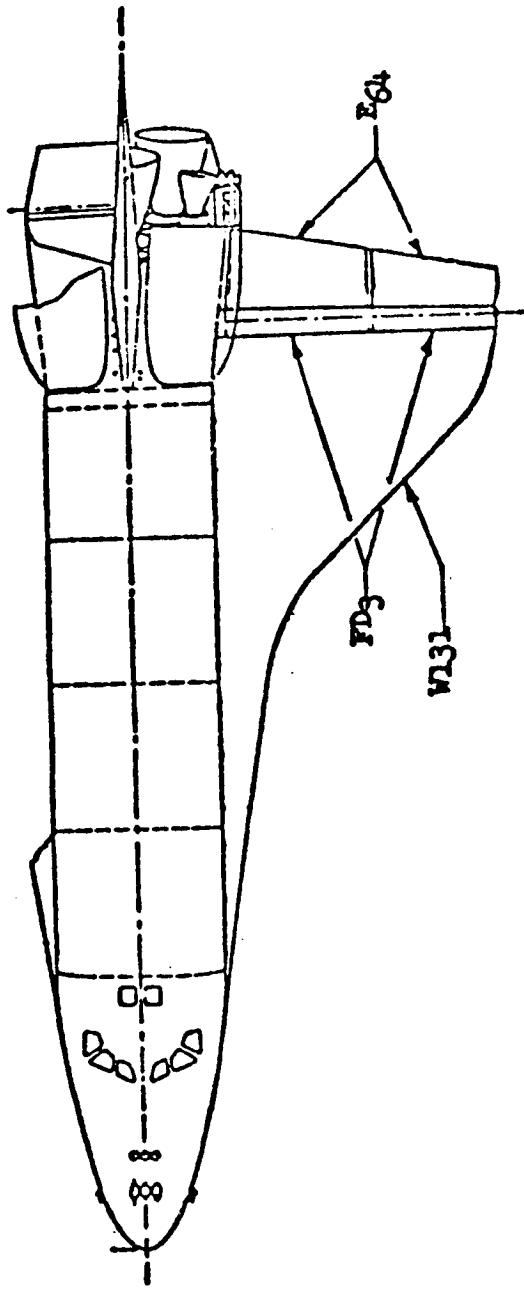


Positive Deflection of	Angle	Aero Forces and Moments	Hinge Moment
Rudder, δr	$+ \beta, -\psi$	$+C_Y, -C_n$	$-C_{h_r}$
Elevon, δe	$-\alpha, -\theta$	$-C_m$	C_{h_e}
Right, δe_R	$-\phi$	$-C_l$	$-C_{h_e_R}$
Left, δe_L	$+\phi$	$+C_l$	$-C_{h_e_L}$
Aileron, δa	$+\phi$	$+C_l$	
Body Flap, δ_{bf}	$-\alpha, -\theta$	$-C_m$	$-C_{h_{bf}}$

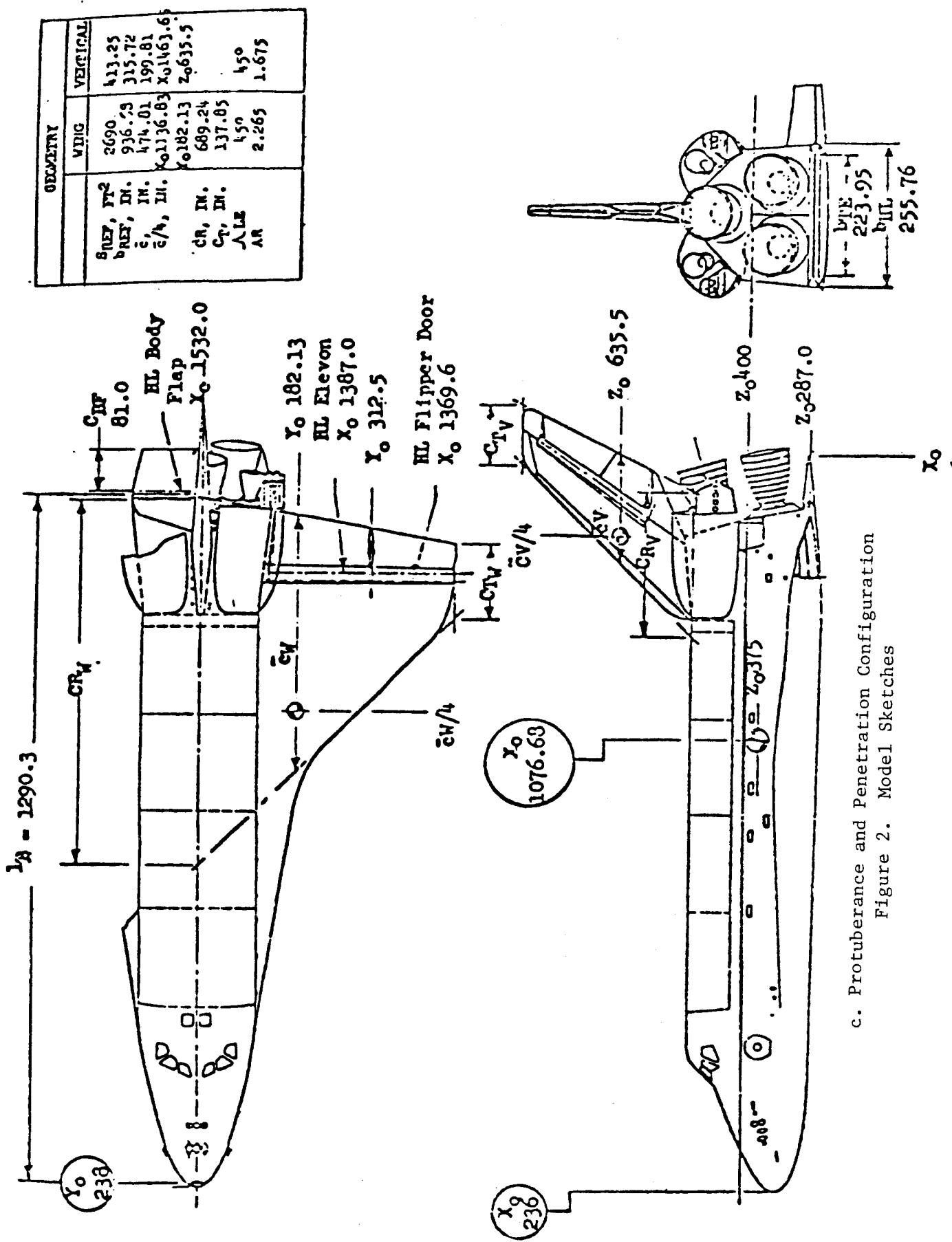
b. Control Surface Deflections
Figure 1. Axis Systems and Sign Conventions



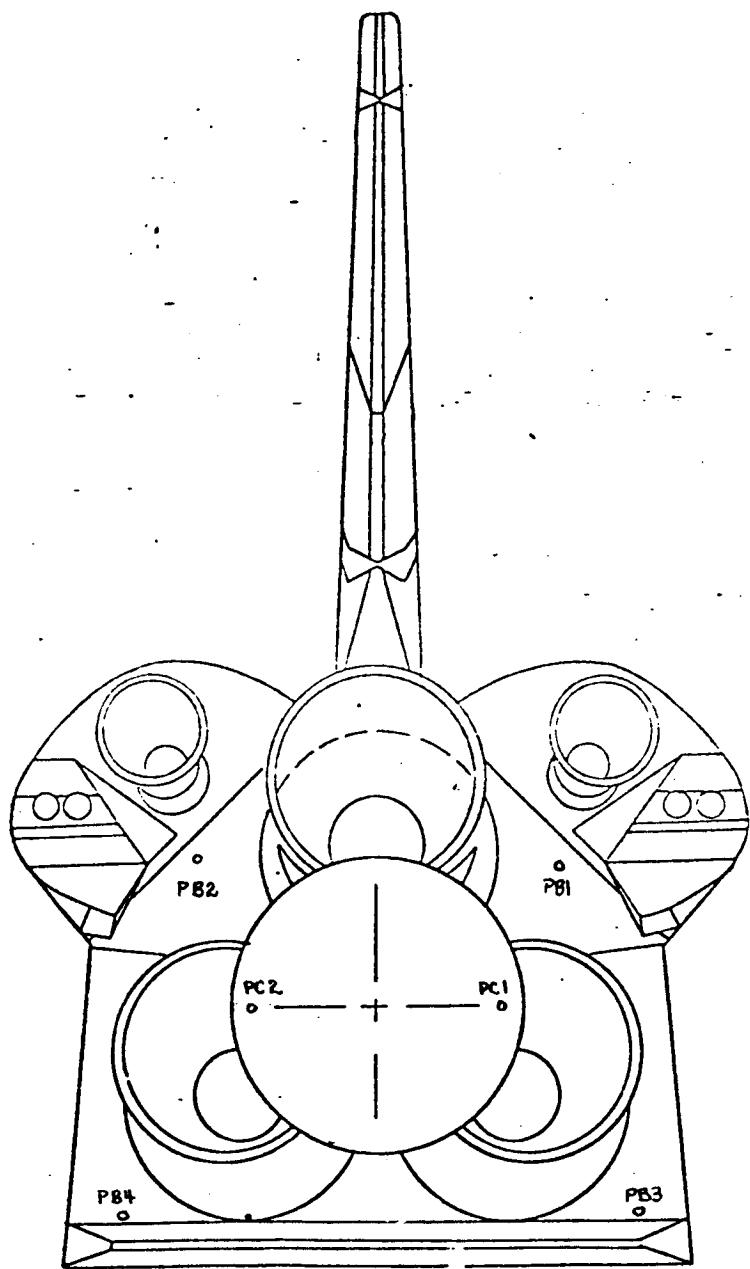
a. Orbiter Geometry
Figure 2. Model Sketches



b. Orbiter Configuration (Components)
Figure 2. Model Sketches



c. Protuberance and Penetration Configuration
Figure 2. Model Sketches



d. Base Pressure Tap Locations
Figure 2. Model Sketches



Figure 3. Model Photograph - Model 105-0 Installed
in NASA/LaRC UPWT High Mach Number Test Section

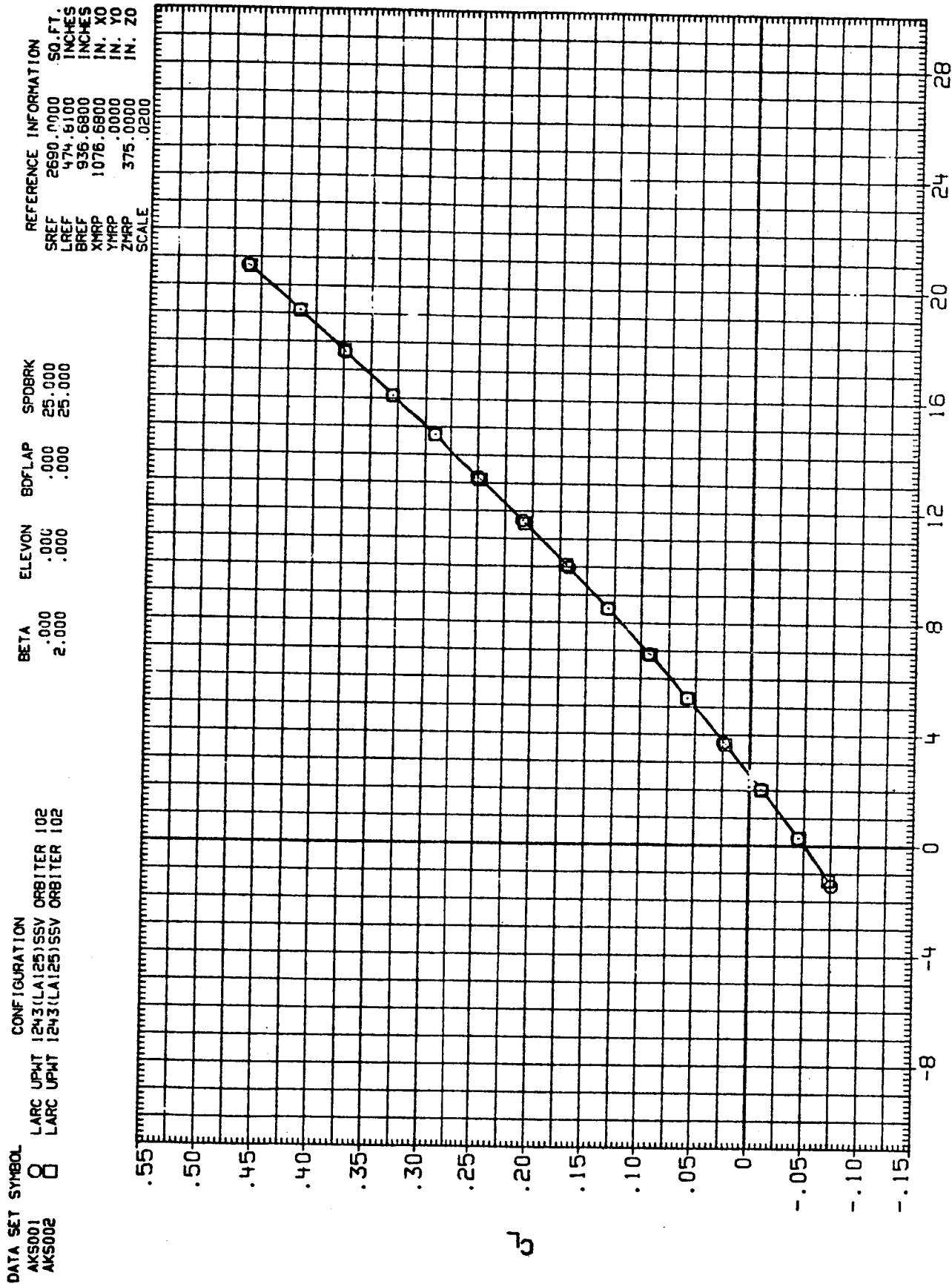
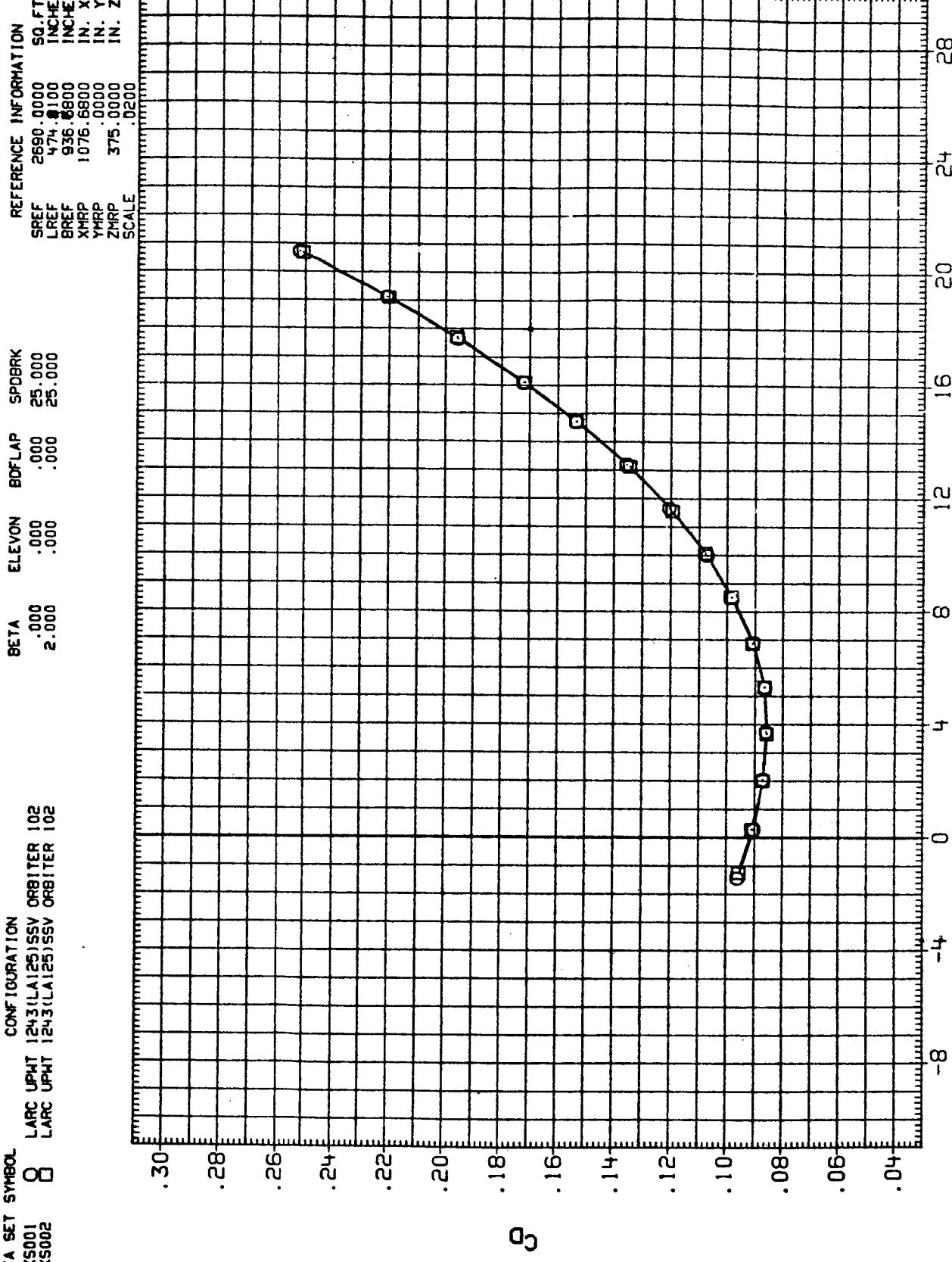


FIGURE 4. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 25 DEG.
PAGE 1

(A) MACH = 4.50

DATA SET SYMBOL CONFIGURATION
 AKS001 0 LARC UPHT 1243(LA125)SSV ORBITER 102
 AKS002 0 LARC UPWT 1243(LA125)SSV ORBITER 102

BETA ELEVON BDFLAP SPDBRK
 2.000 .000 .000 25.000
 2.000 .000 .000 25.000



(A)MACH = 4.50

FIGURE 4. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 25 DEG.

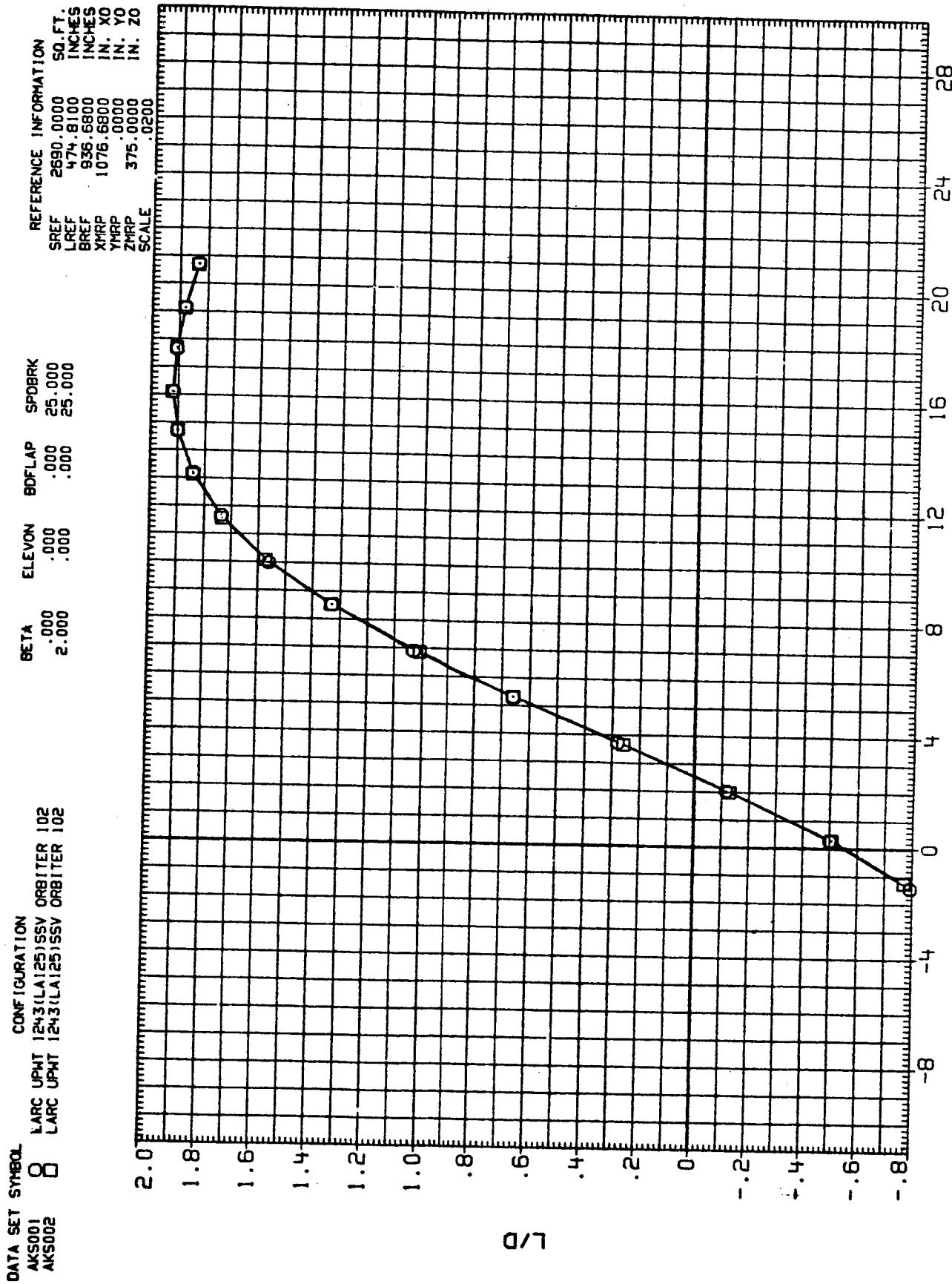


FIGURE 4. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 25 DEG.
PAGE 3

DATA SET	SYMBOL	CONFIGURATION
AKS001	8	LARC UPT 1243(LA)25)SSV ORBITER 102
AKS002	8	LARC UPT 1243(LA)25)SSV ORBITER 102

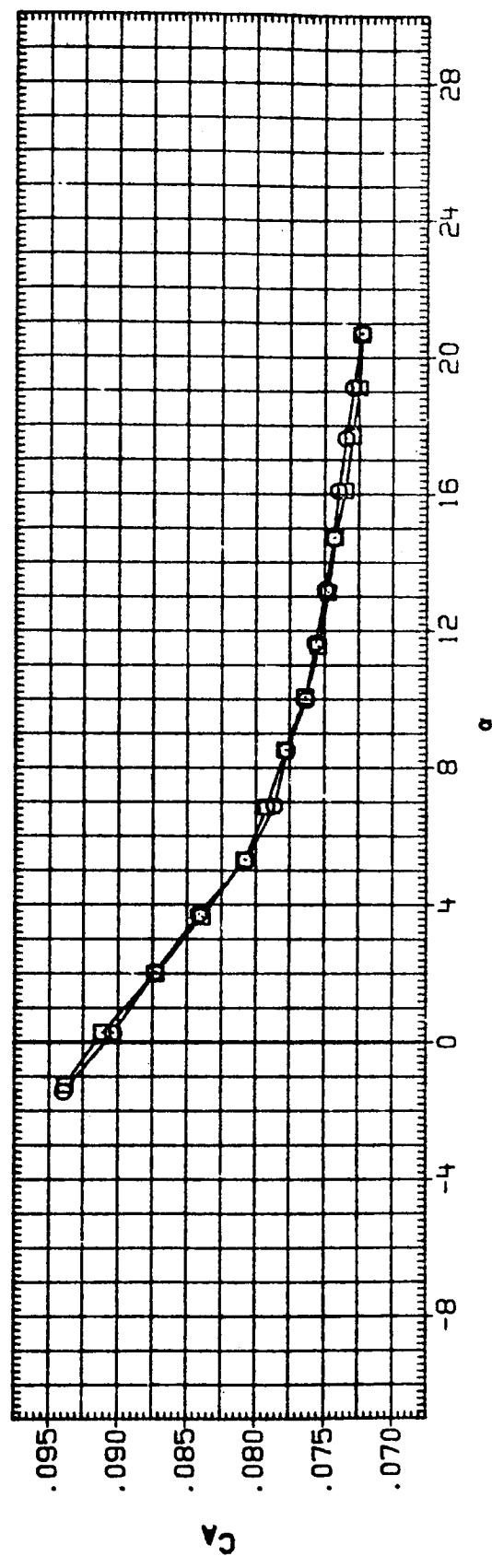
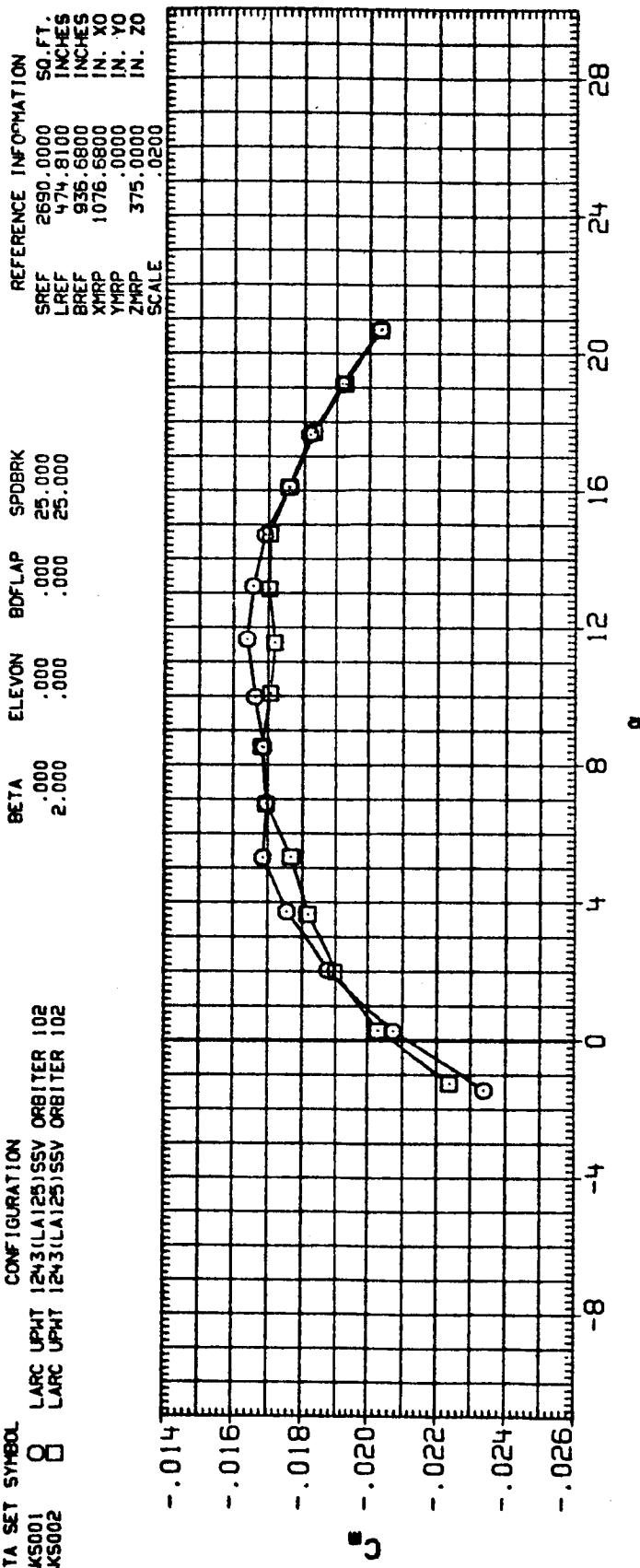


FIGURE 4. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 25 DEG.
(A) MACH = 4.50

DATA SET SYMBOL CONFIGURATION
 AK5001 8 LARC UPWT 123(LA)251SSV ORBITER 102
 AK5002 0 LARC UPWT 123(LA)251SSV ORBITER 102

BETA ELEVON BOFLAP SPDBRK
 .000 .000 .000 25.000
 2.000 .000 .000 25.000

REFERENCE INFORMATION
 SREF 2890.0000 SQ.FT.
 LREF 474.8100 INCHES
 BREF 936.6800 INCHES
 XHPP 1076.6800 IN. X0
 YHPP .0000 IN. Y0
 ZHPP 375.0000 IN. Z0
 SCALE .0200

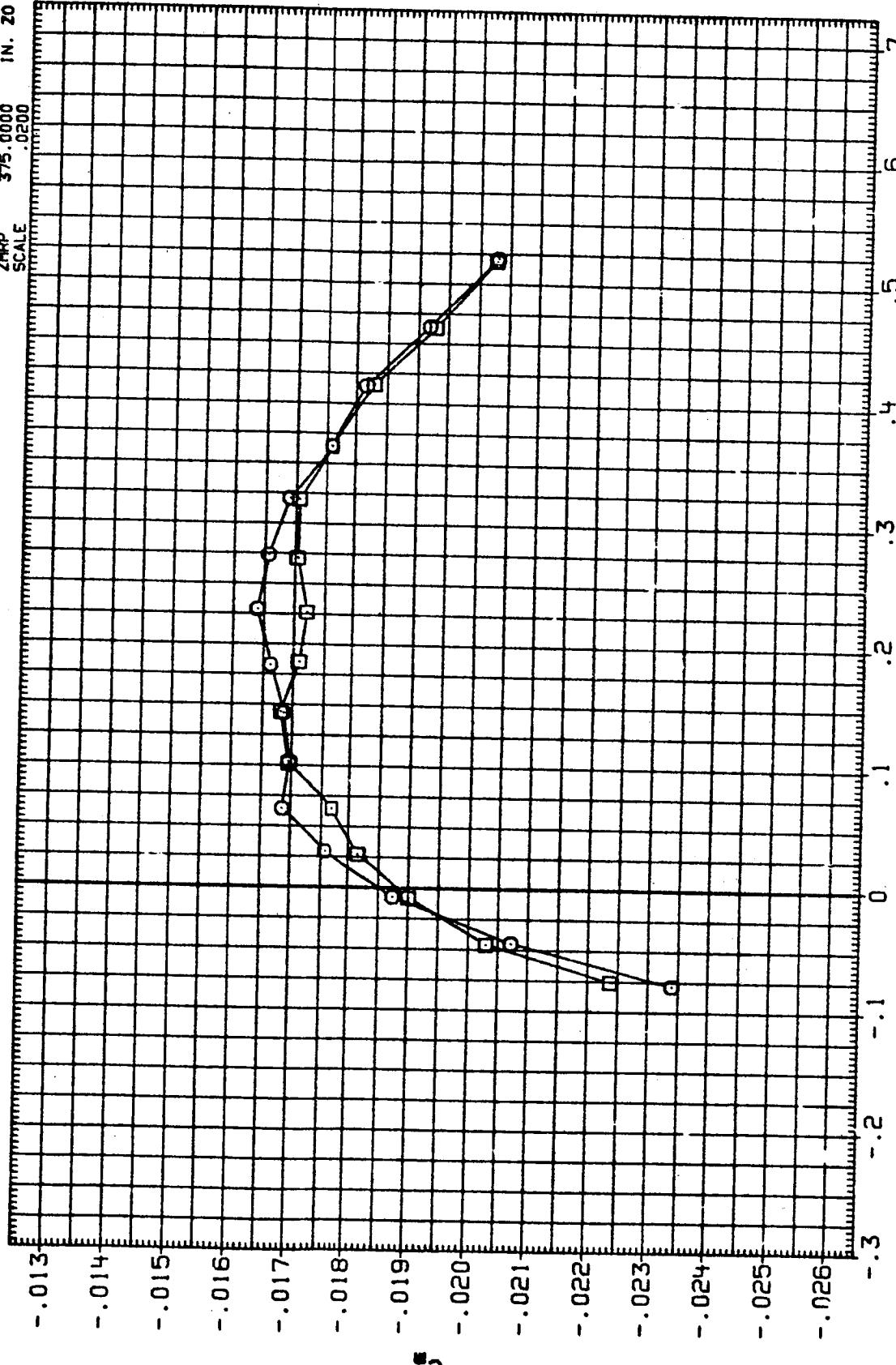


FIGURE 4. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 25 DEG.
 (A) MACH = 4.50
 PAGE 5

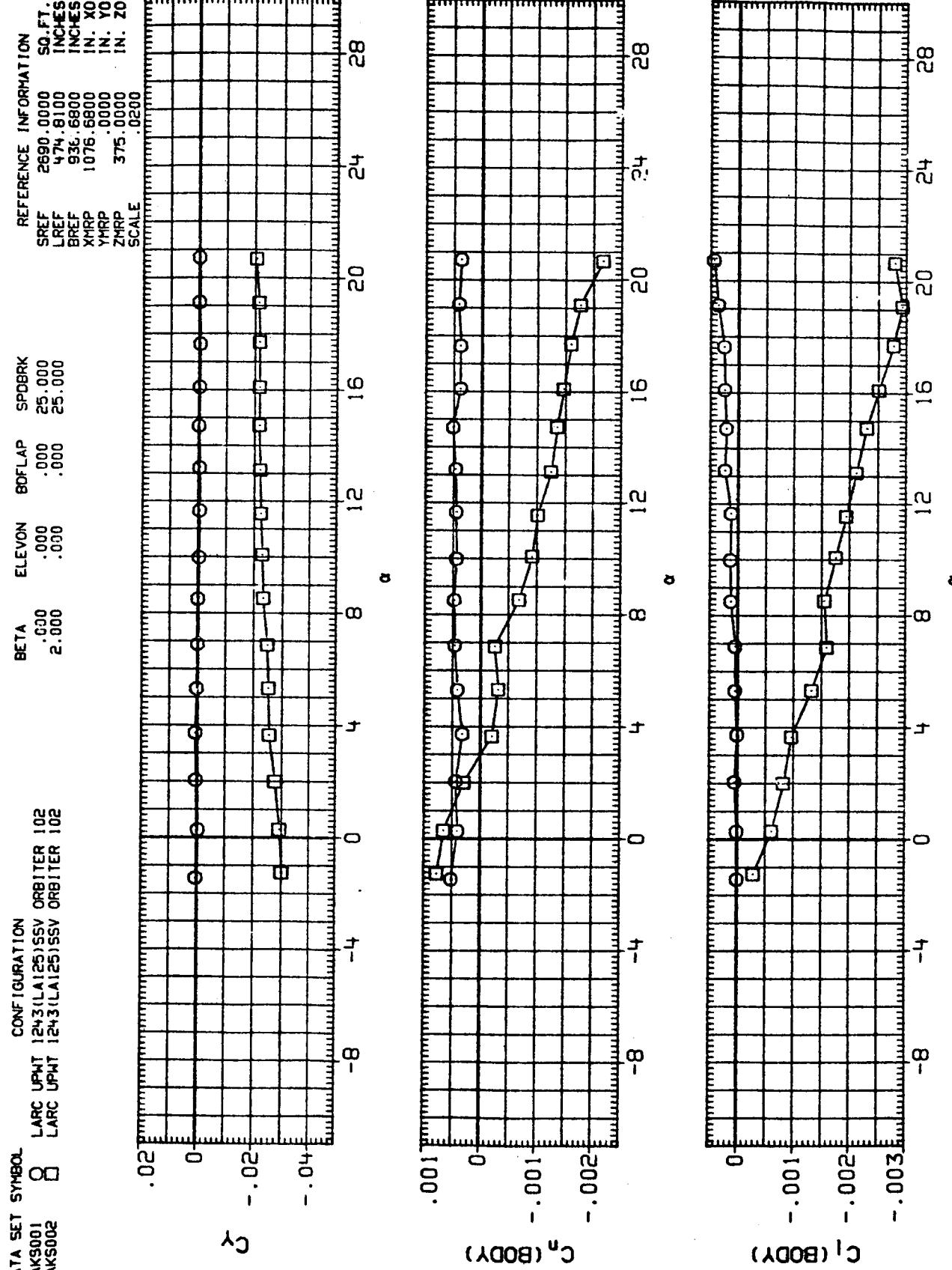


FIGURE 4. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 25 DEG.
(A) MACH = 4.50

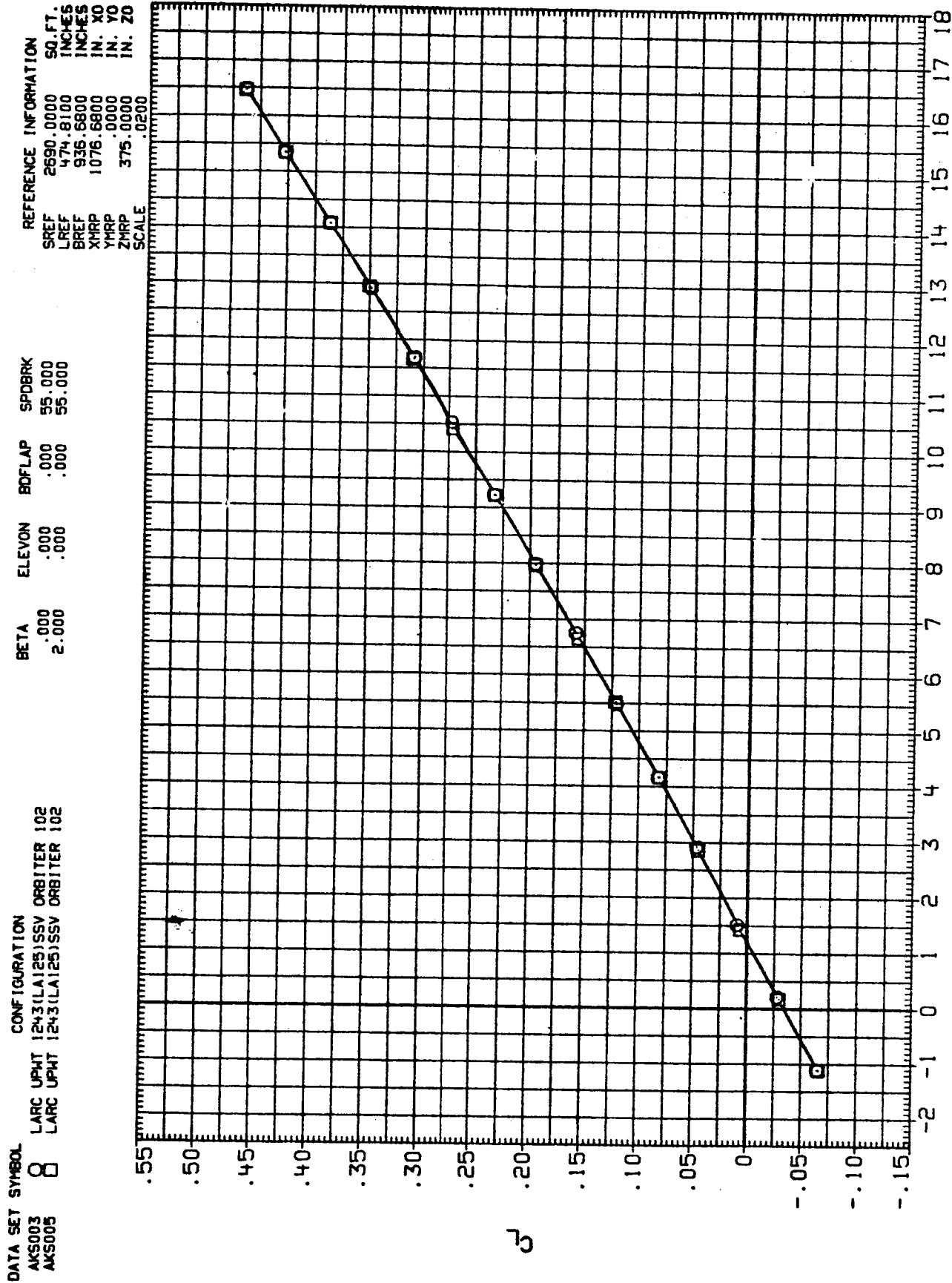


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 55 DEG.
 (A) MACH = 2.50 PAGE 7

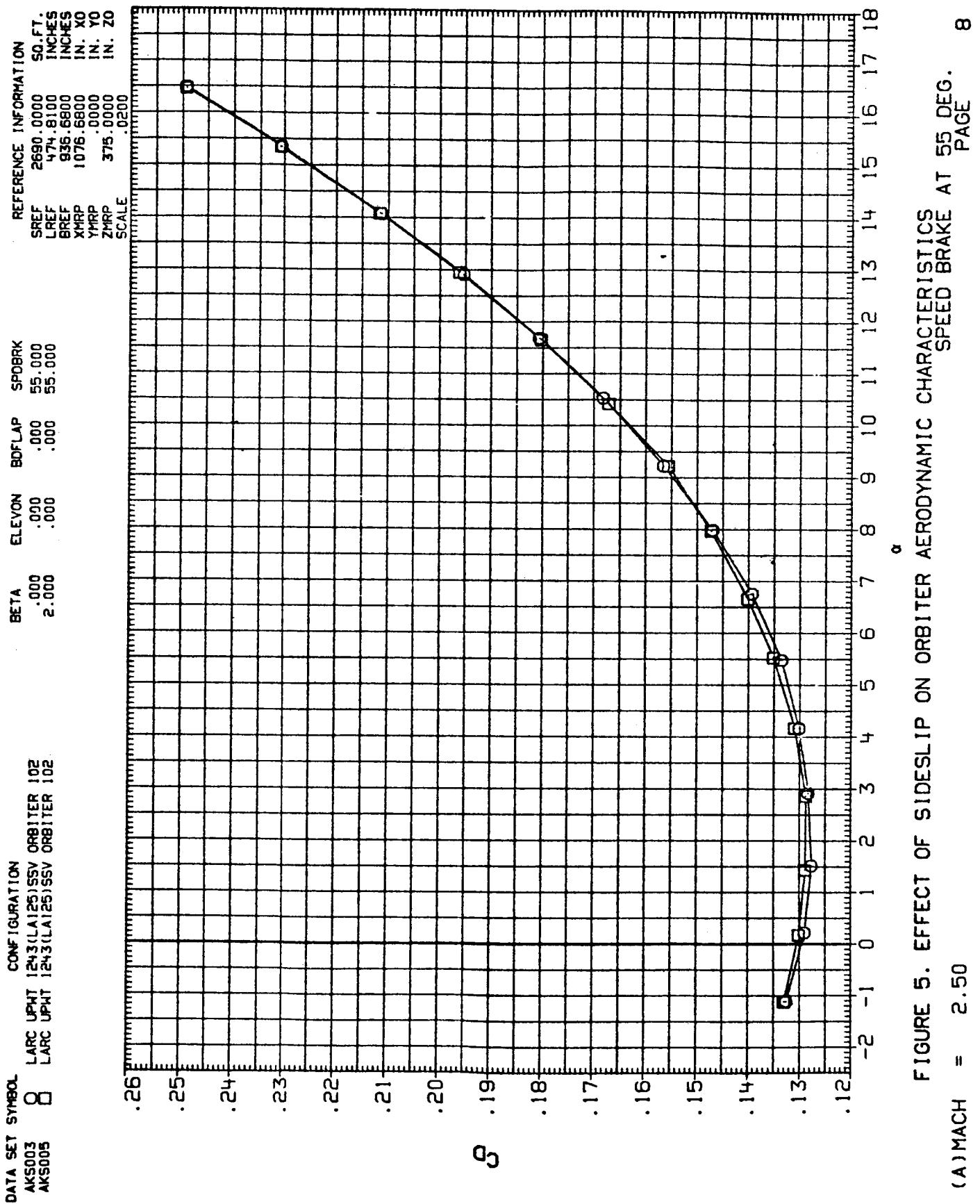


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 55 DEG.
PAGE 8

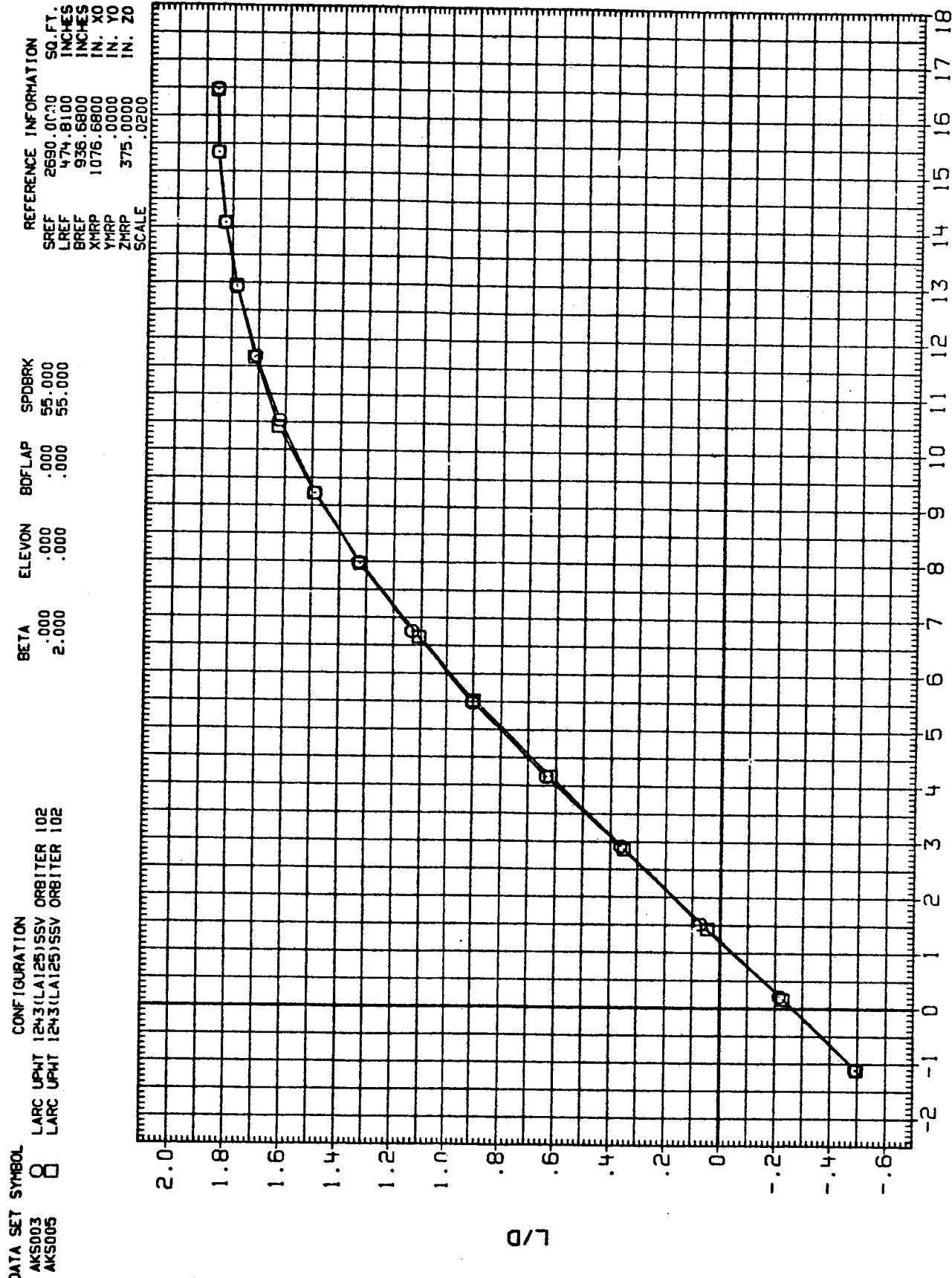


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 55 DEG.
 (A) MACH = 2.50

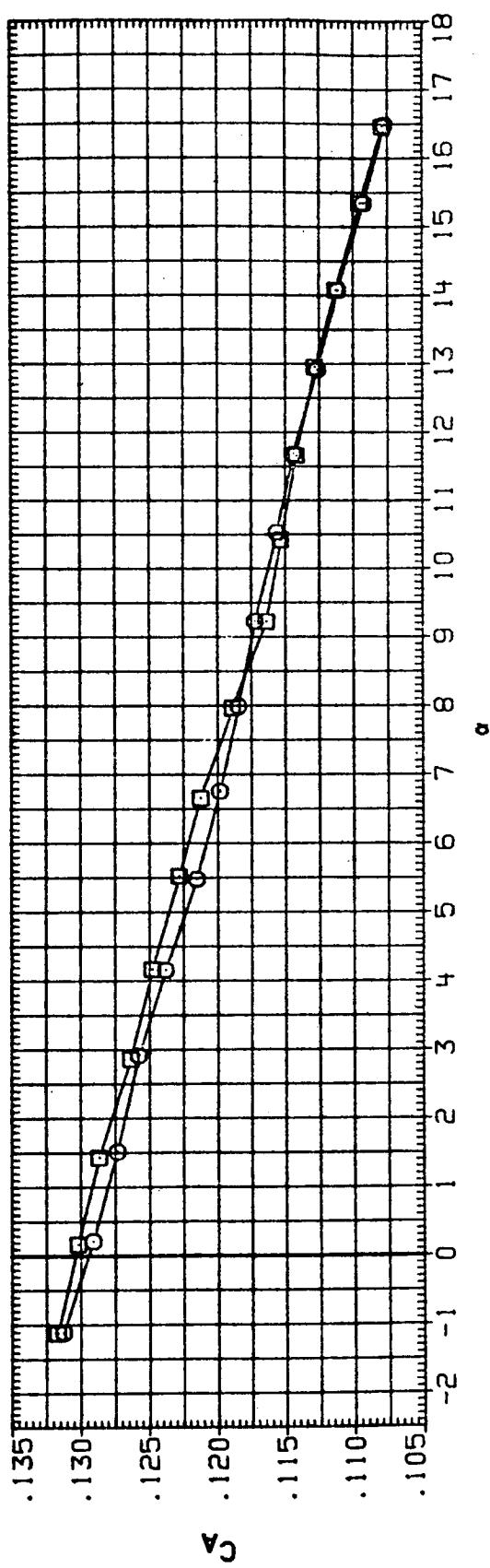
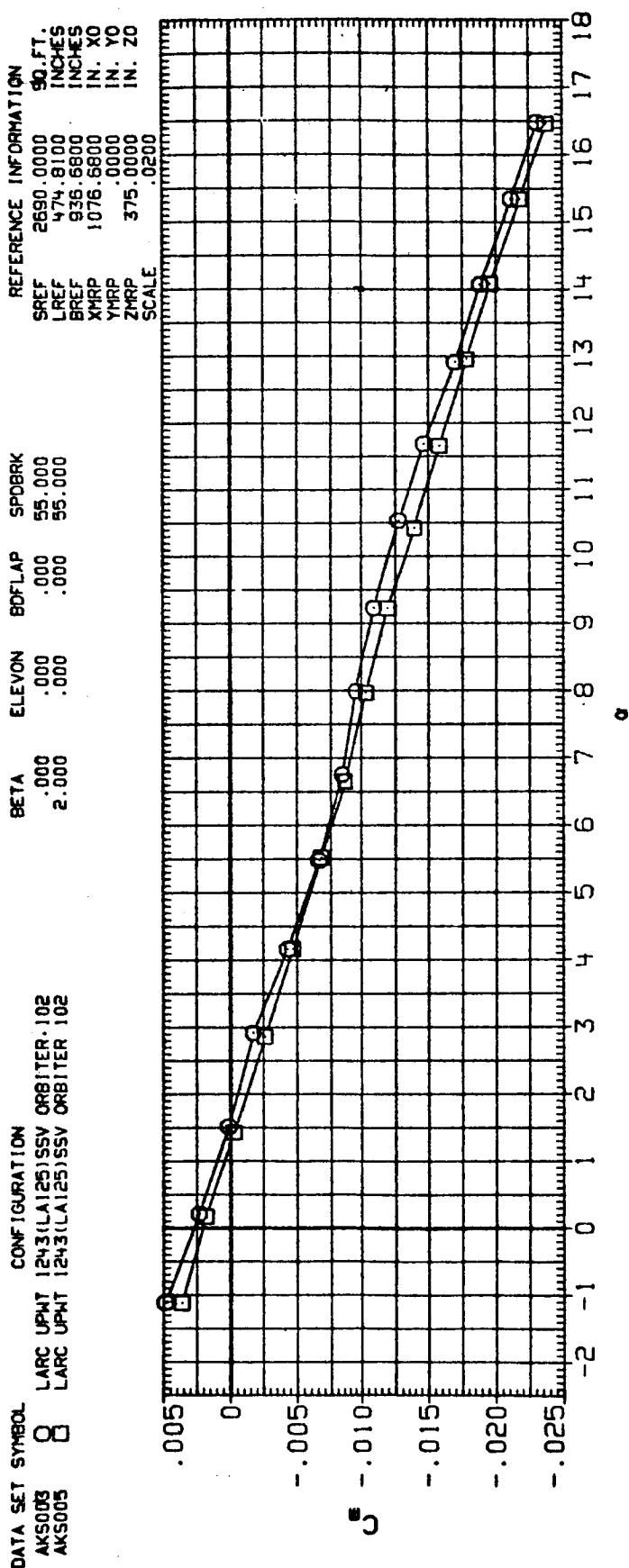


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 (A) MACH = 2.50 (B) MACH = 5.50
 (A) DEG. 10
 (B) DEG. 10

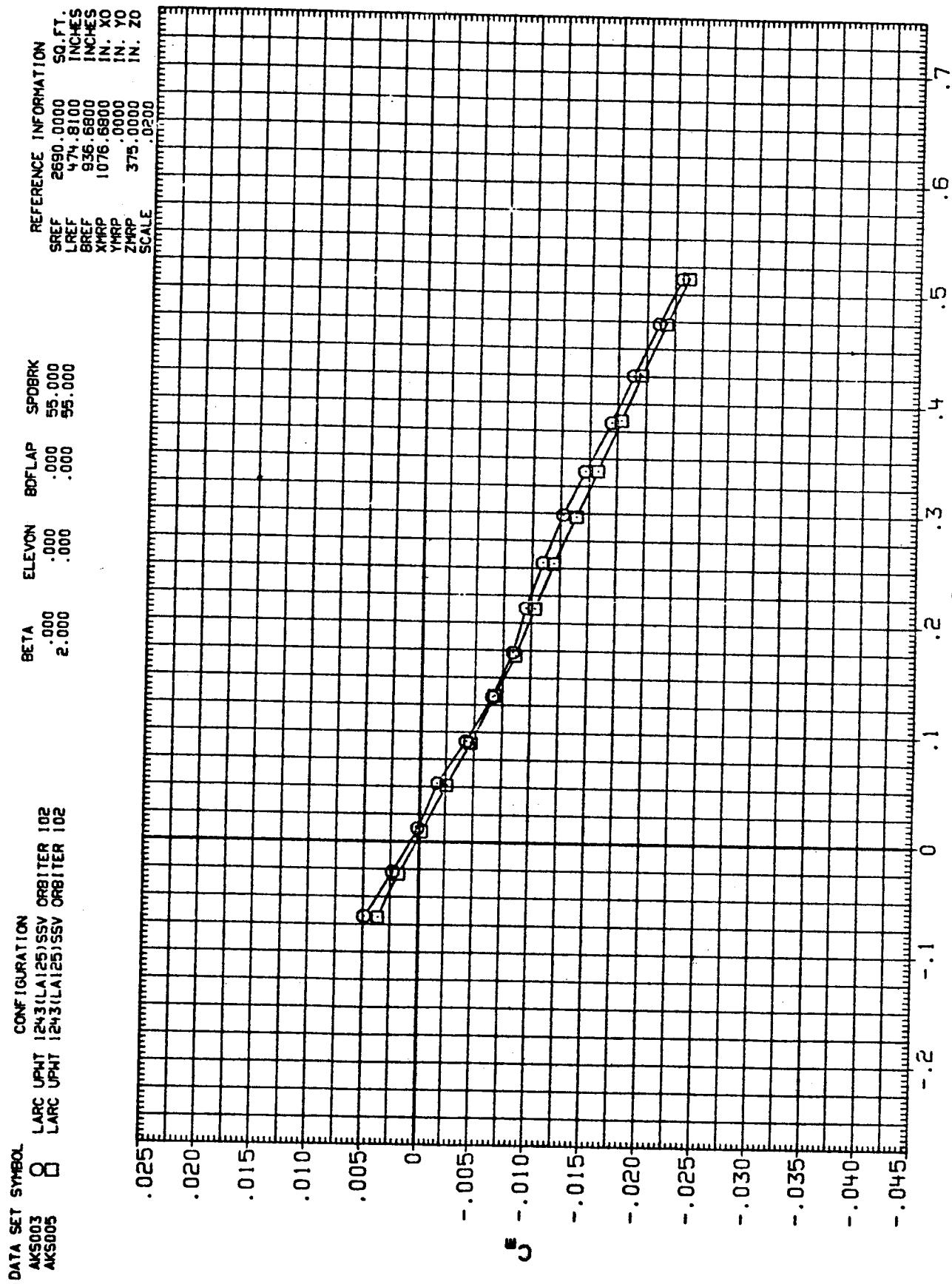


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 55 DEG.
PAGE 11

DATA SET SYMBOL
AKS003 8 LARC UPWT 1243(LA125)SSV ORBITER 102
AKS005 8 LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE INFORMATION
SREF 2690.0000 SQ.FT.
LREF 974.8100 INCHES
BREF 936.6800 INCHES
XMRP 1076.6800 IN.
YMRP .0000 IN.
ZMRP 375.0000 IN.
SCALE .0200

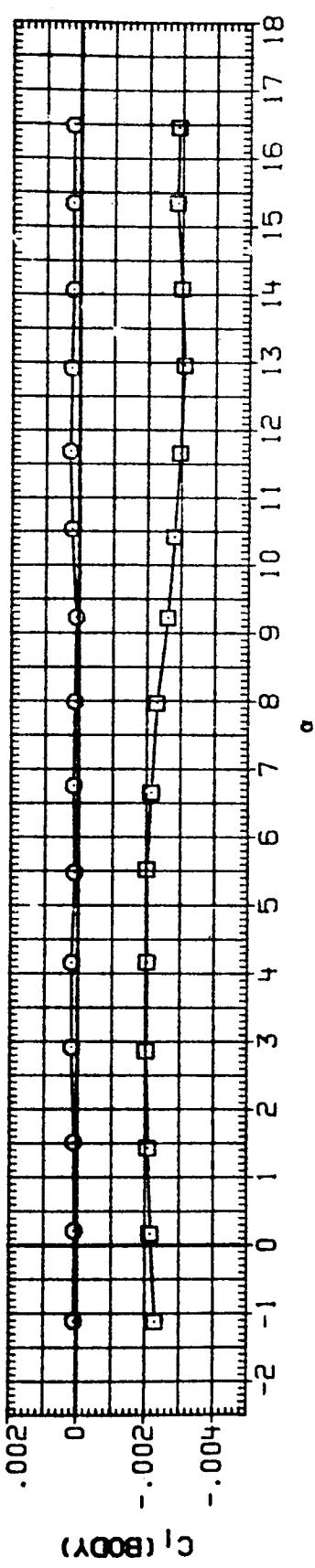
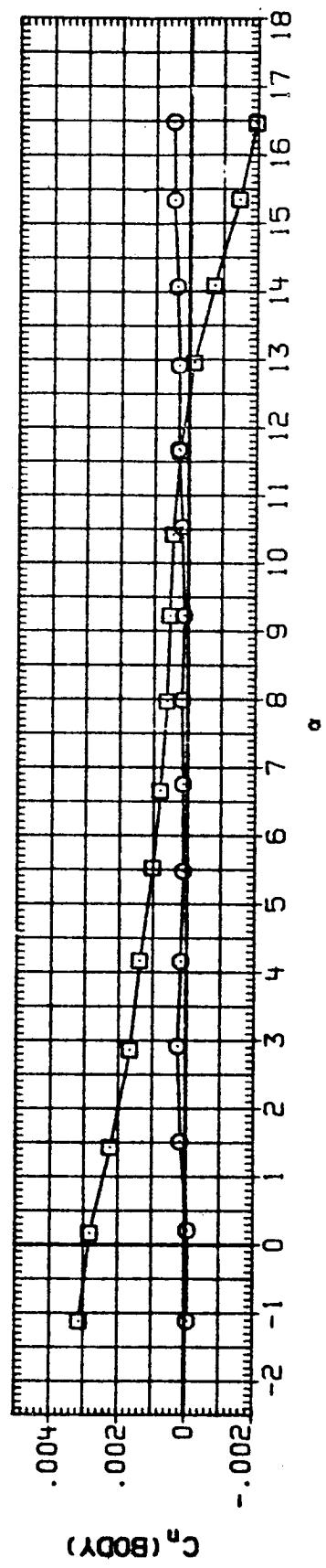
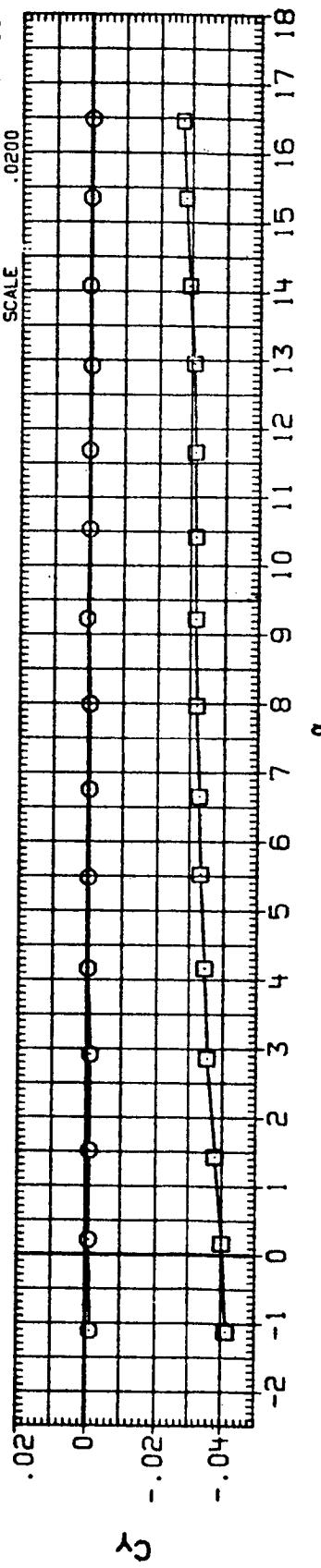
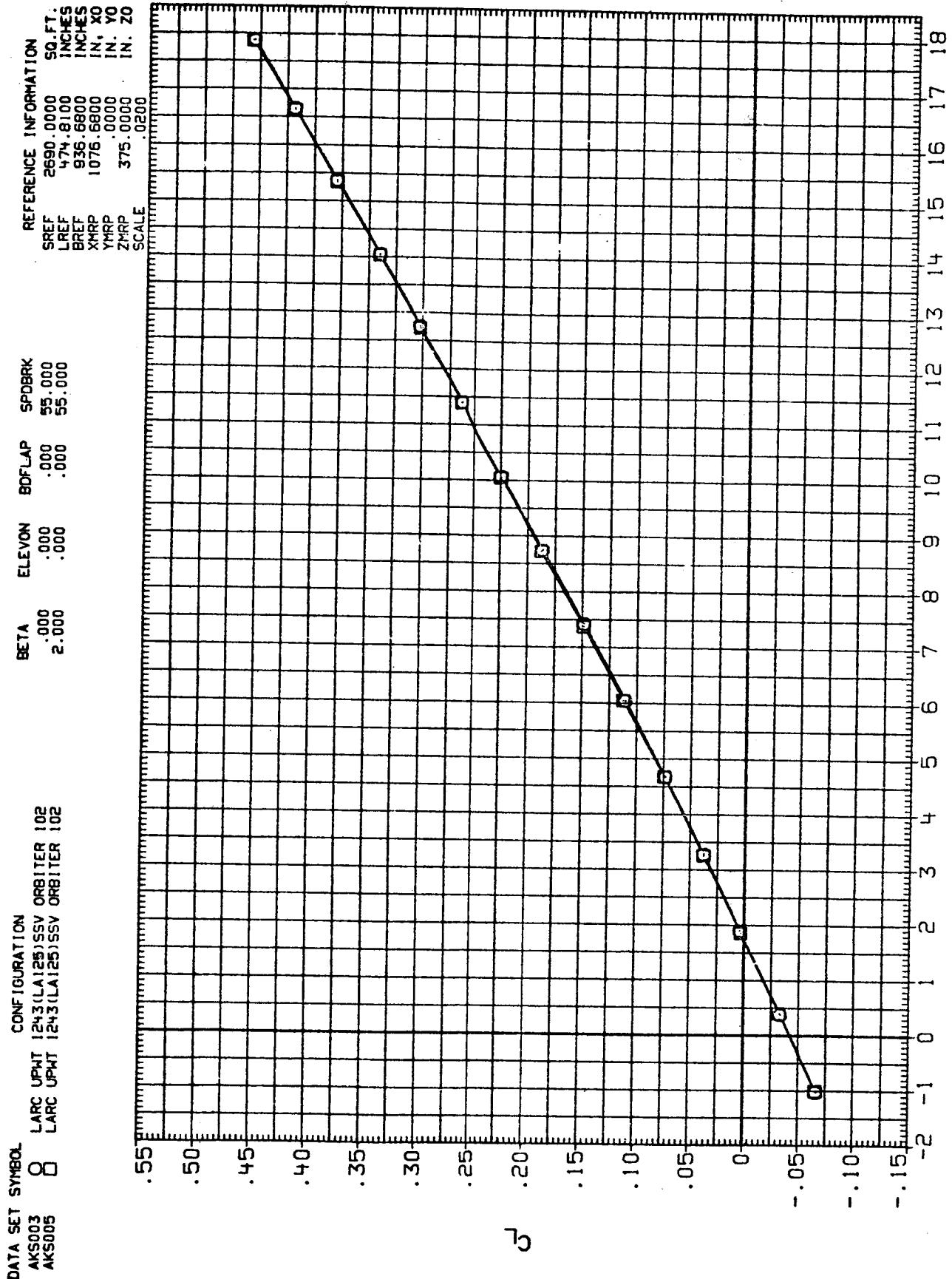


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 55 DEG.

(A) MACH = 2.50
PAGE 12



(B) MACH = 3.00
PAGE 13

FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE A) 55 DEG.

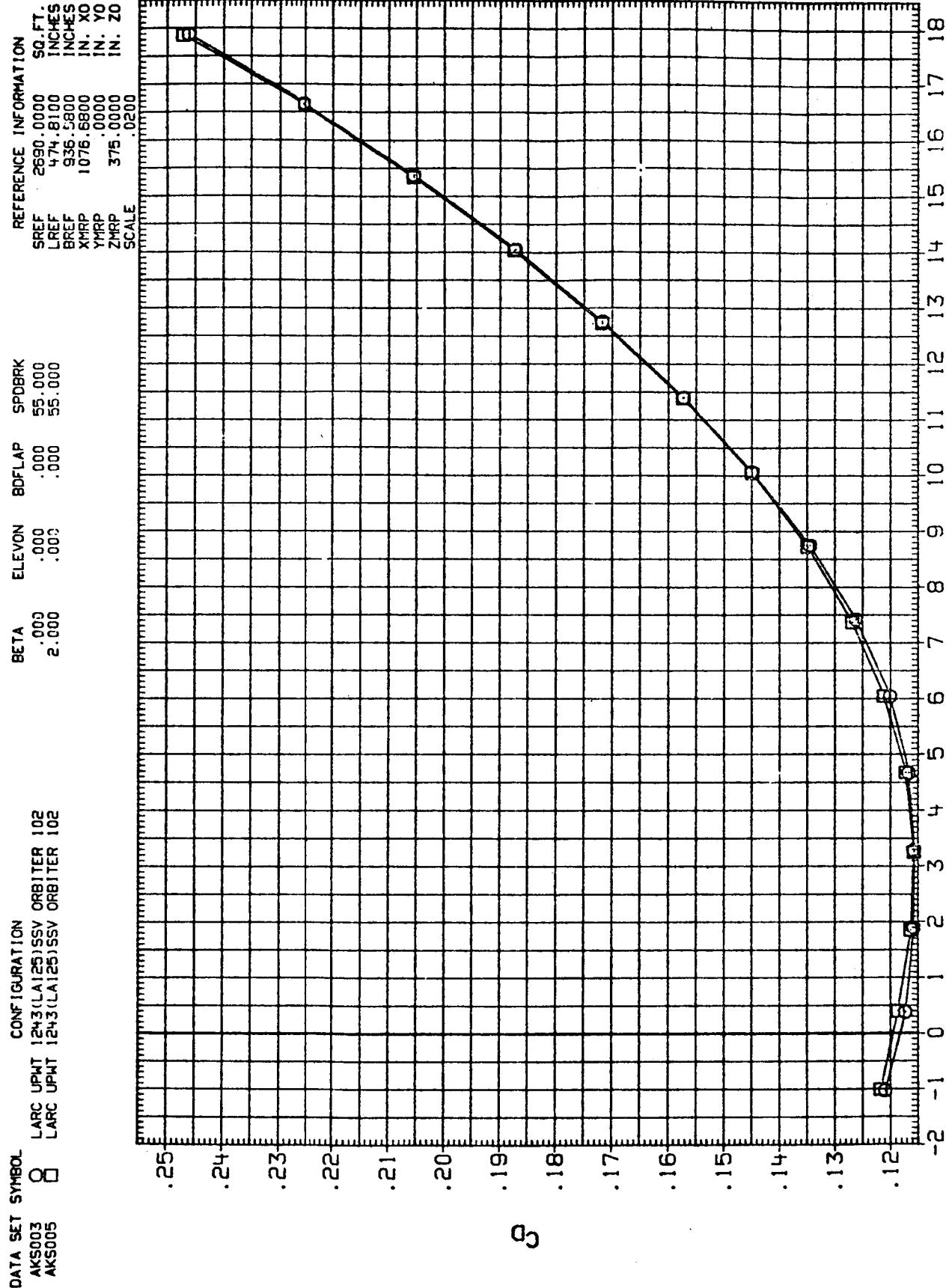


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 55 DEG.
 (B)MACH = 3.00 PAGE 14

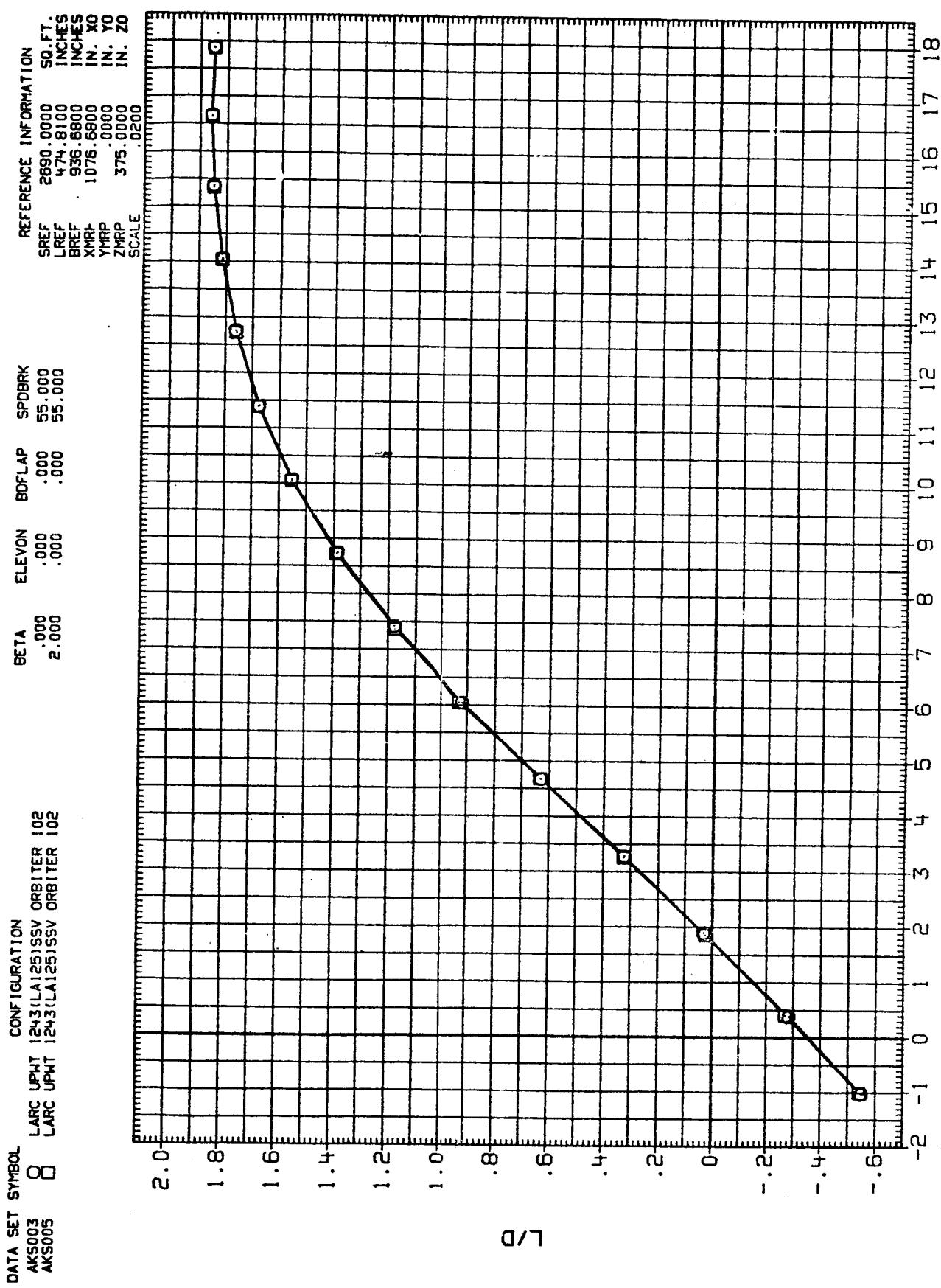


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 (B) MACH = 3.00 SPEED BRAKE AT 55 DEG.
 PAGE 15

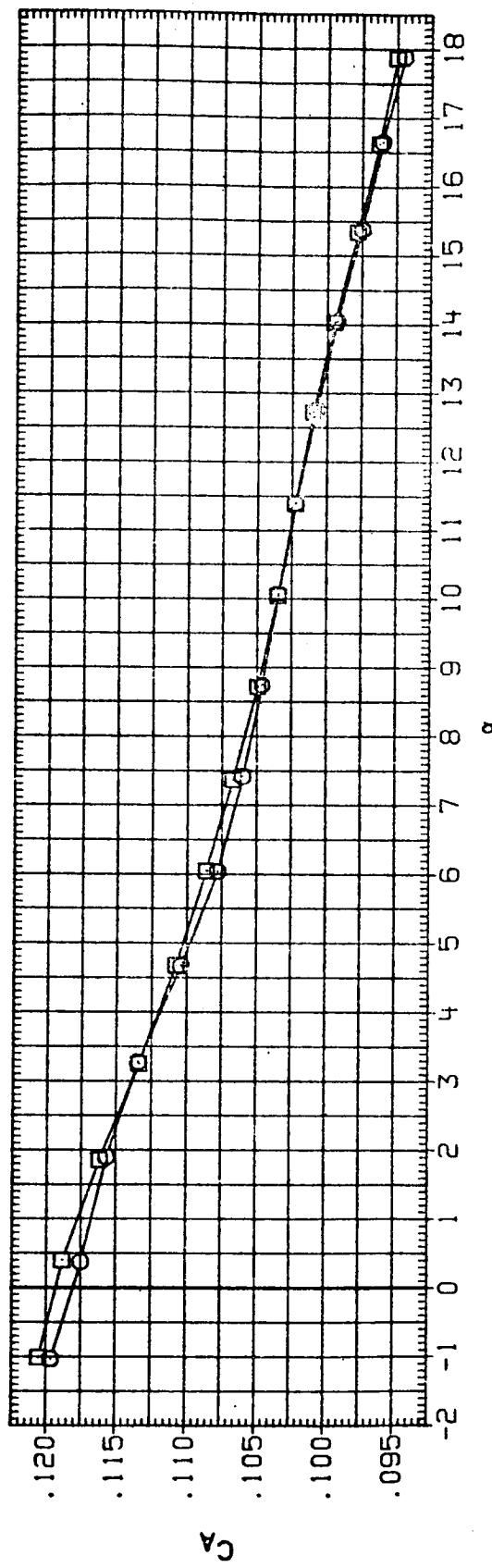
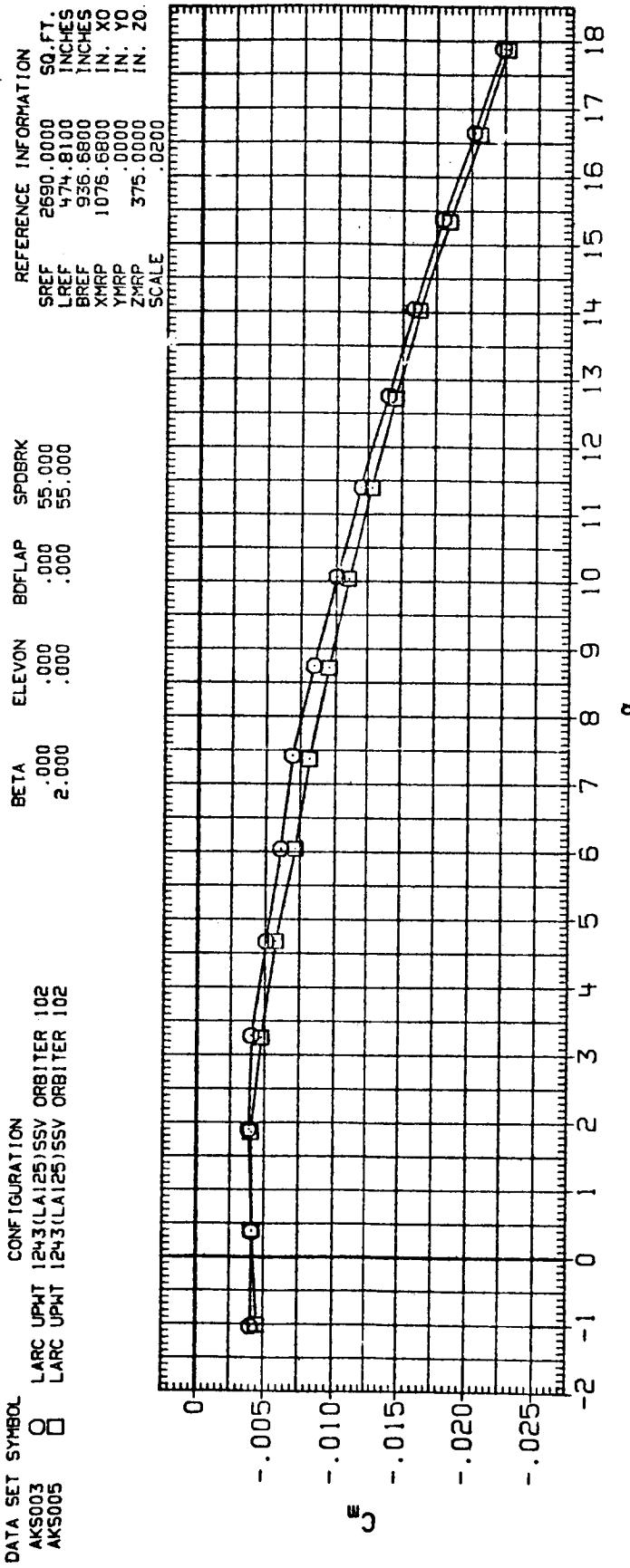


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
(B) MACH = 3.00 SPEED BRAKE AT 55 DEG.
PAGE 16

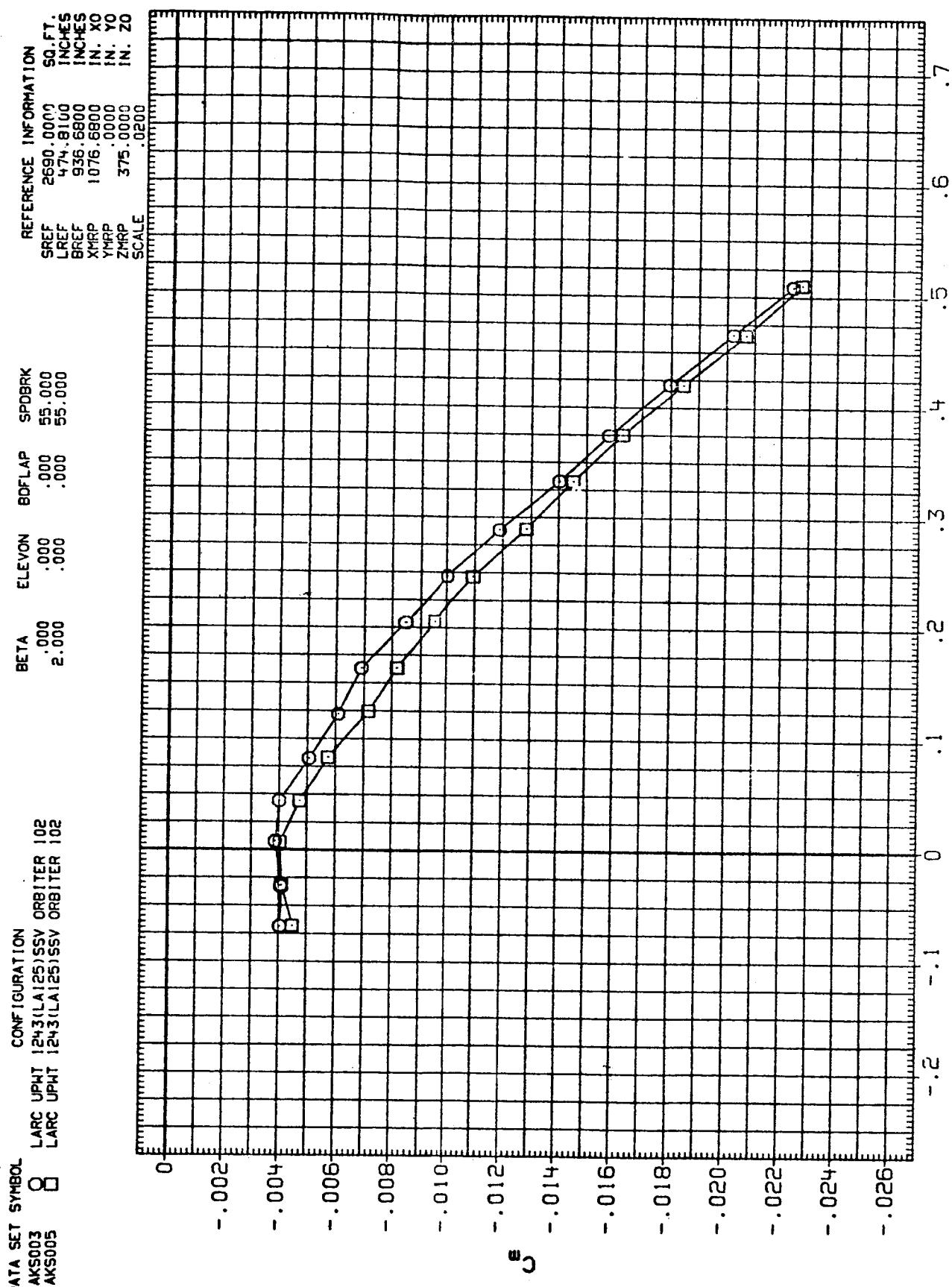


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 55 DEG.

(B) MACH = 3.00

PAGE 17

DATA SET SYMBOL CONFIGURATION
 AK5003 O LARC UPWT 124-3(LA)125(SSV ORBITER 102
 AK5005 □ LARC UPWT 124-3(LA)125(SSV ORBITER 102

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 474.8100 INCHES
 BREF 936.8800 INCHES
 XMRP 1076.6800 IN. X0
 YMRP .0000 IN. Y0
 ZMRP 375.0000 IN. Z0
 SCALE .0200

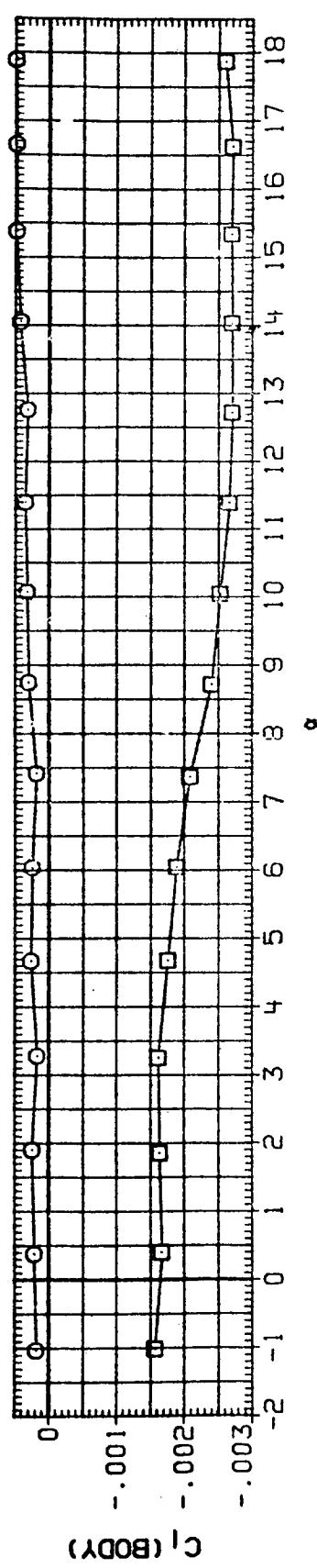
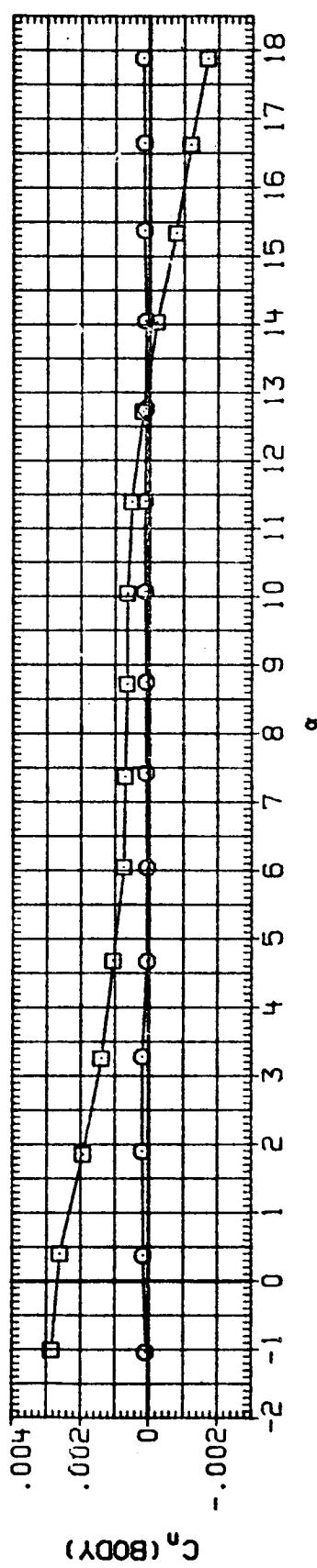
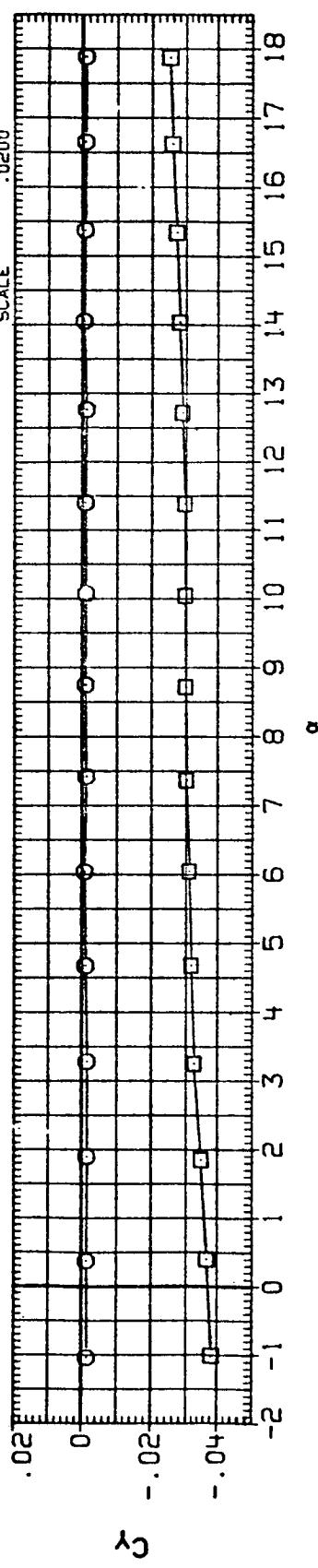


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 (B) MACH = 3.00 SPEED BRAKE AT 55 DEG.

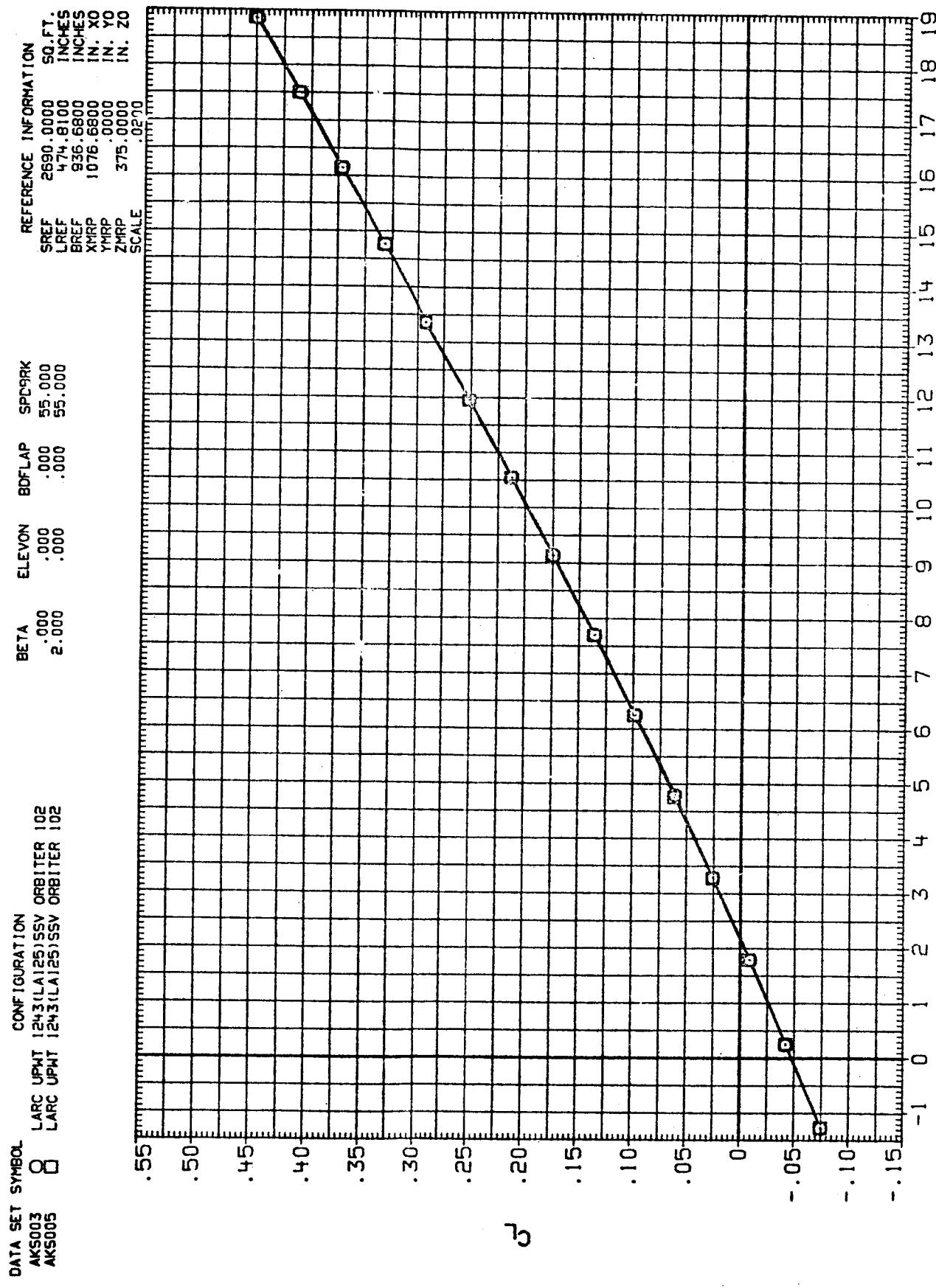


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 55 DEG.
 (C) MACH = 3.50

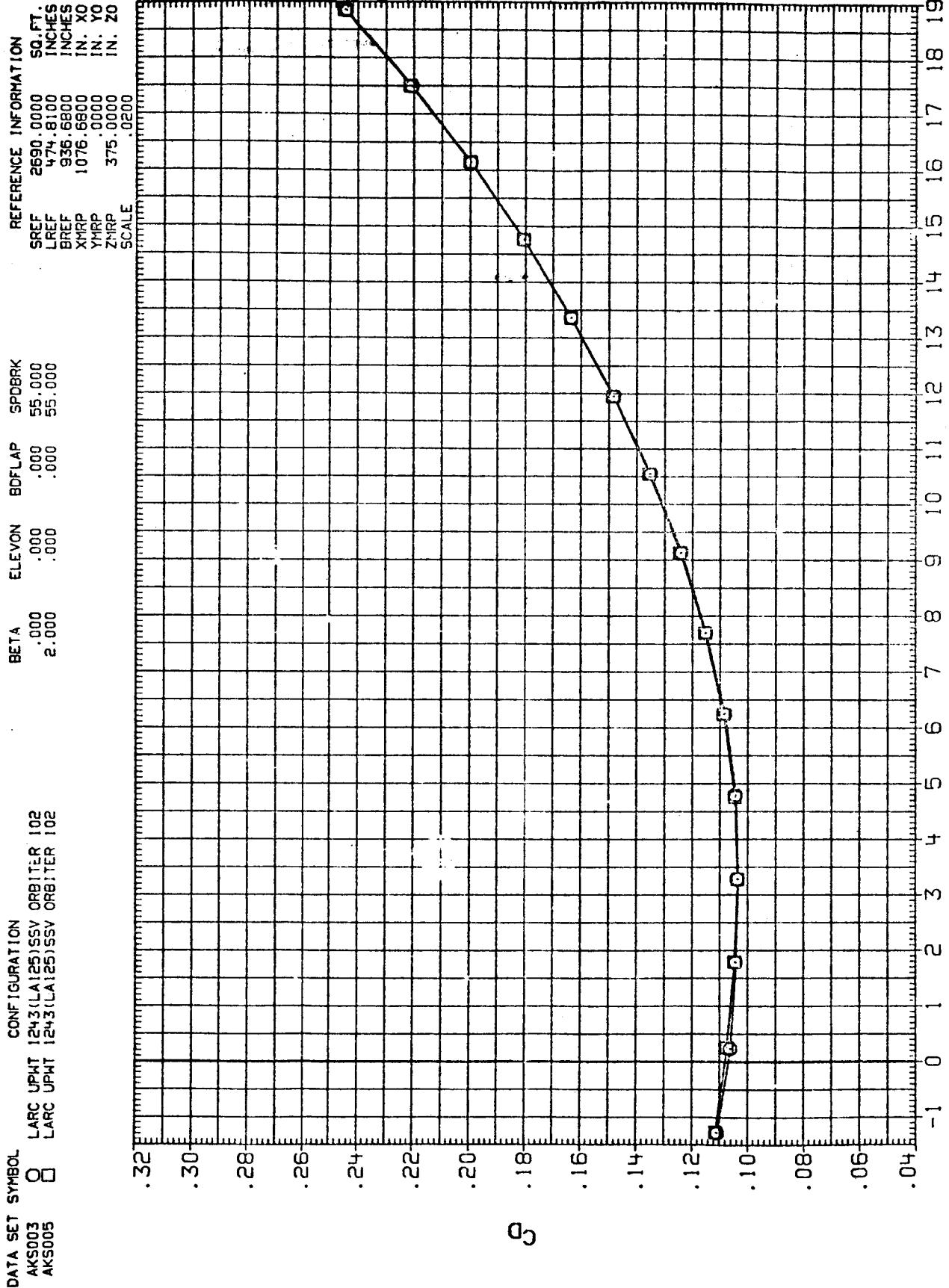


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 55 DEG.
 (C)MACH = 3.50 PAGE 20

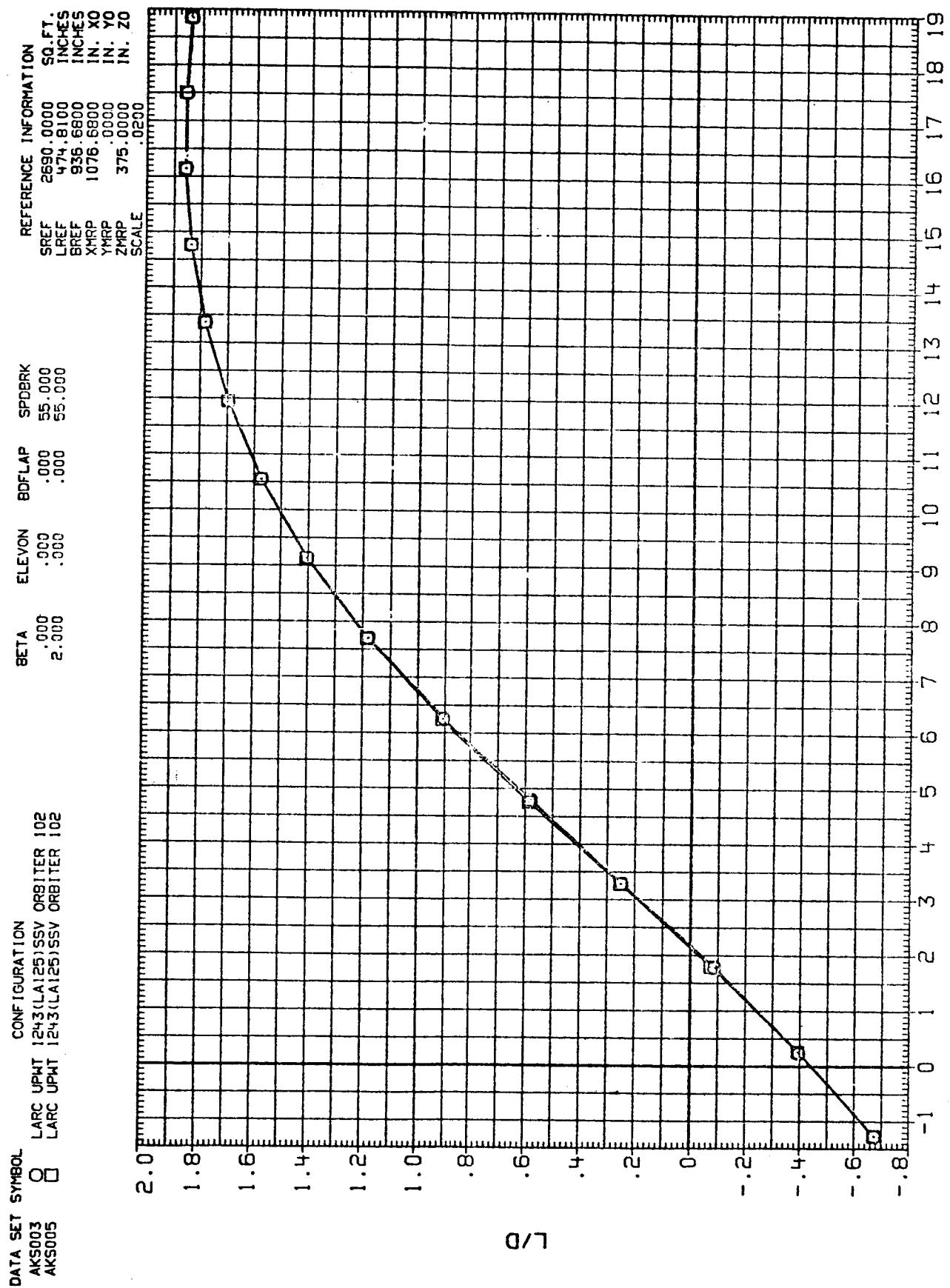


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 55 DEG.
(C) MACH = 3.50

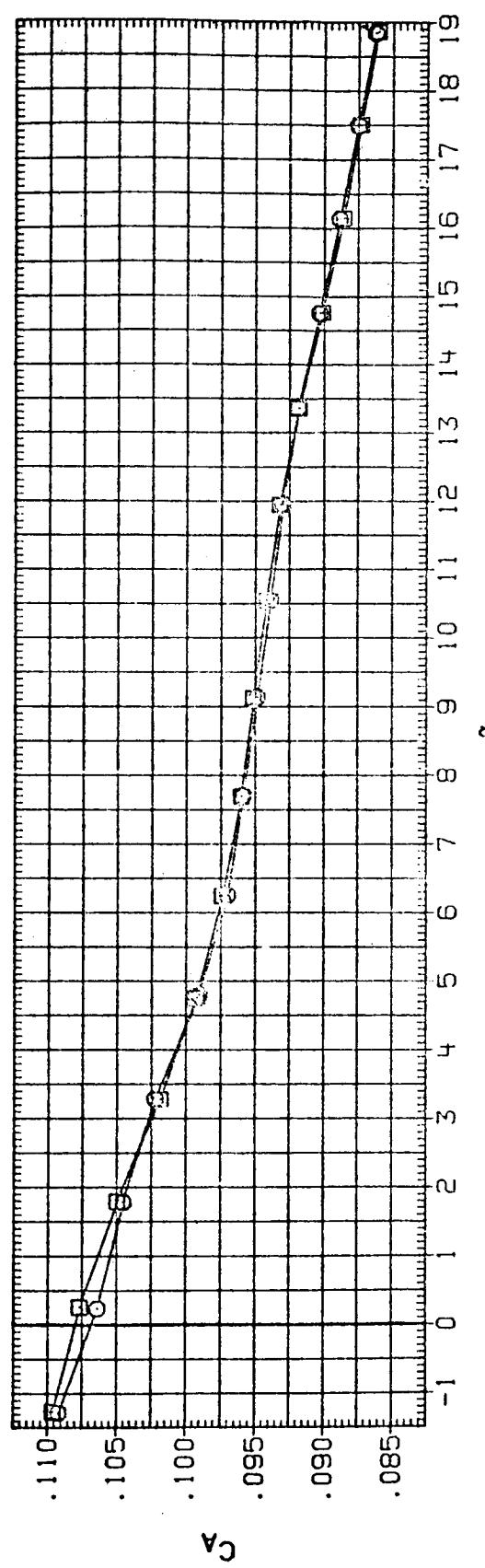
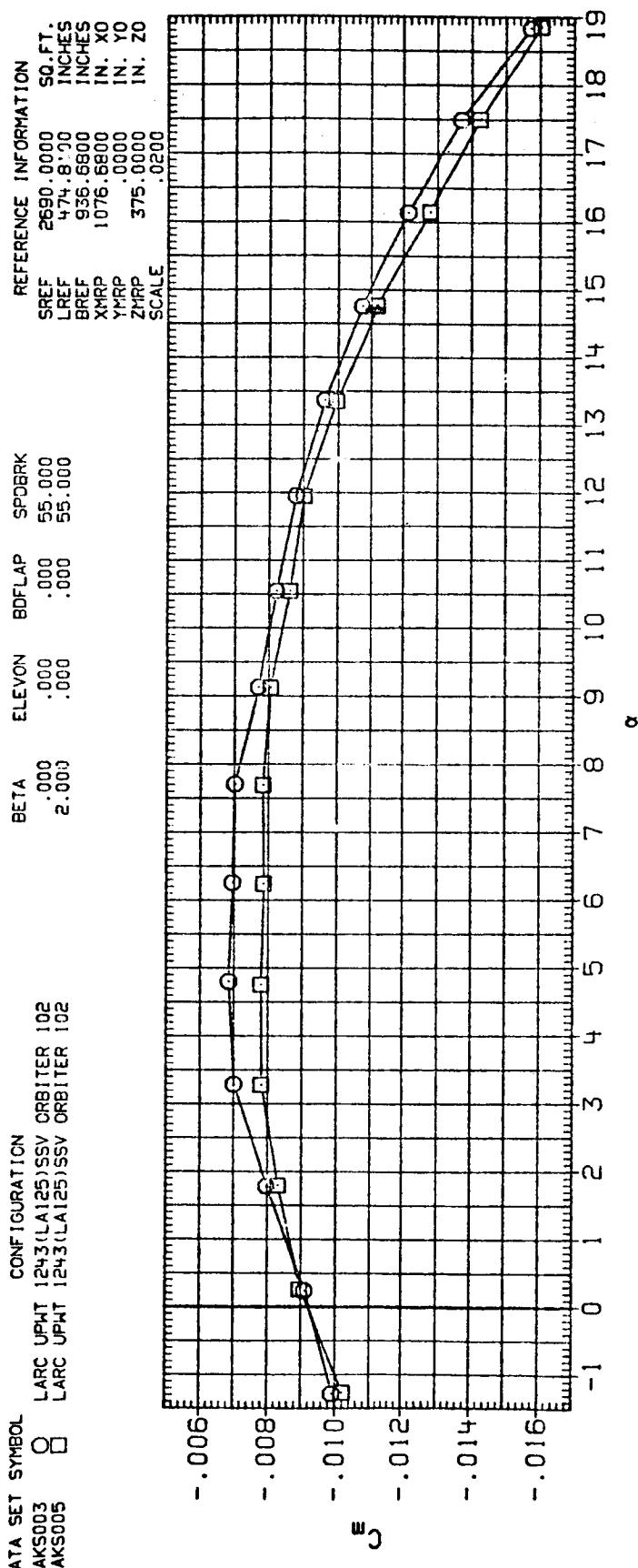


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 (C) MACH = 3.50 SPEED BRAKE AT 55 DEG. PAGE 22

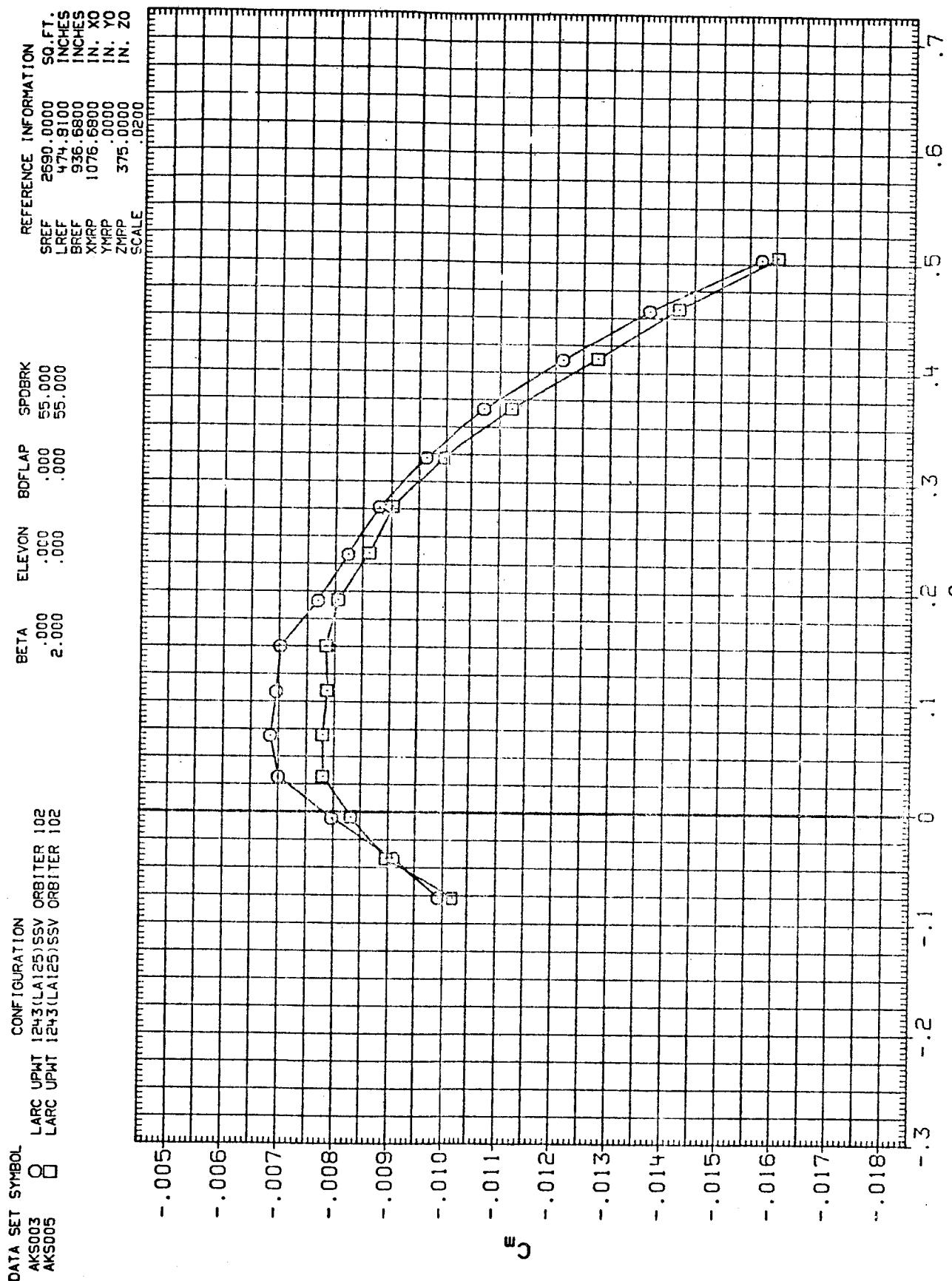


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
(C) MACH = 3.50
SPEED BRAKE AT 55 DEG.
PAGE 23

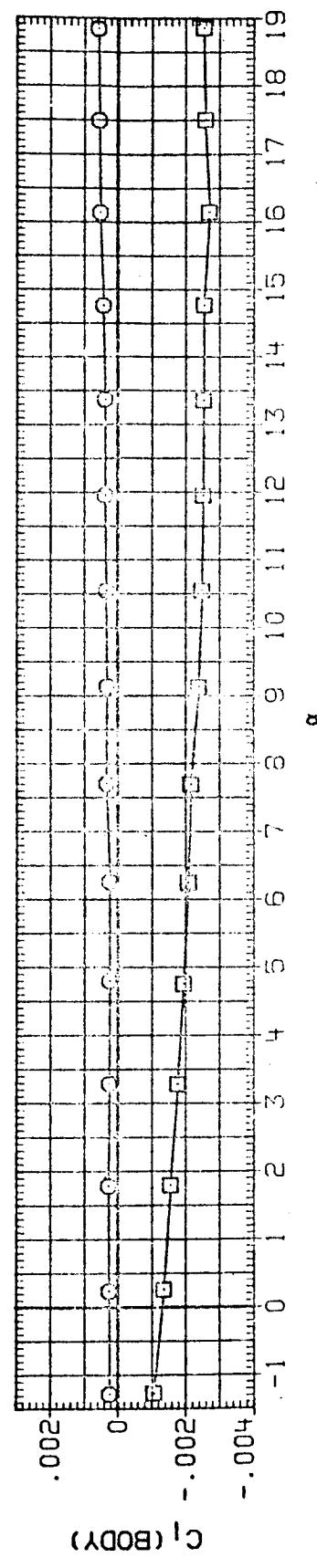
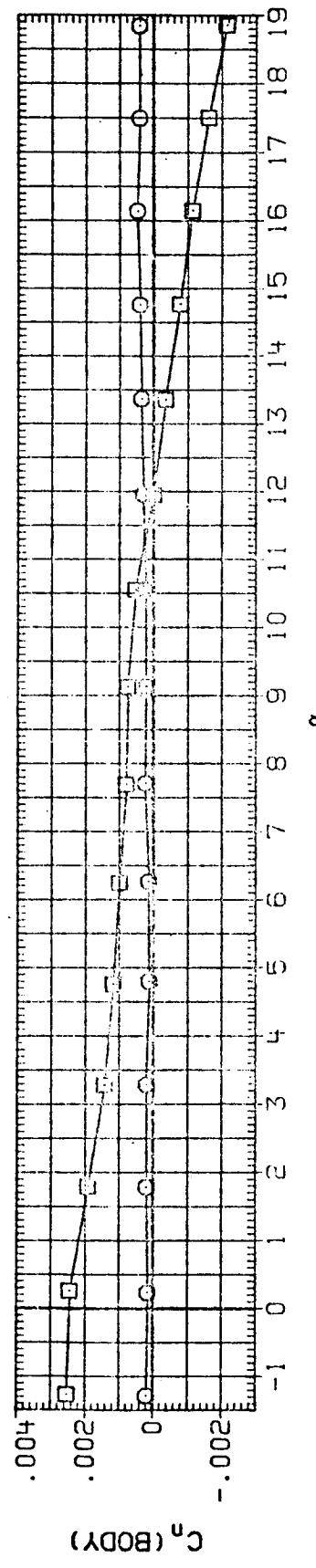
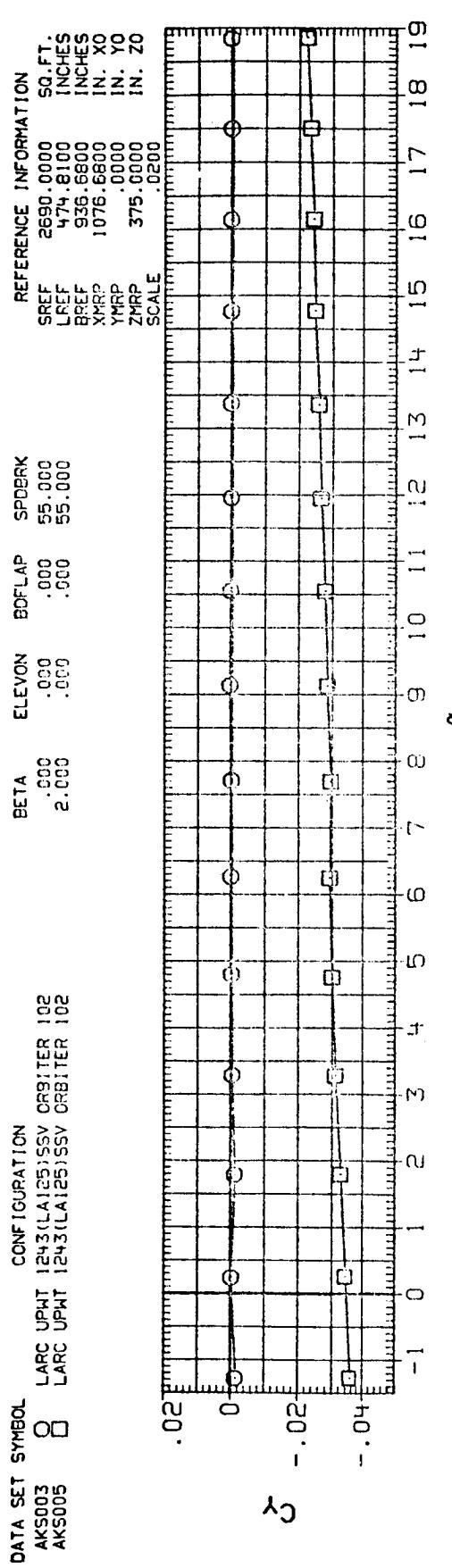


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
(C)MACH = 3.50 SPEED BRAKE AT 55 DEG.

PAGE 24

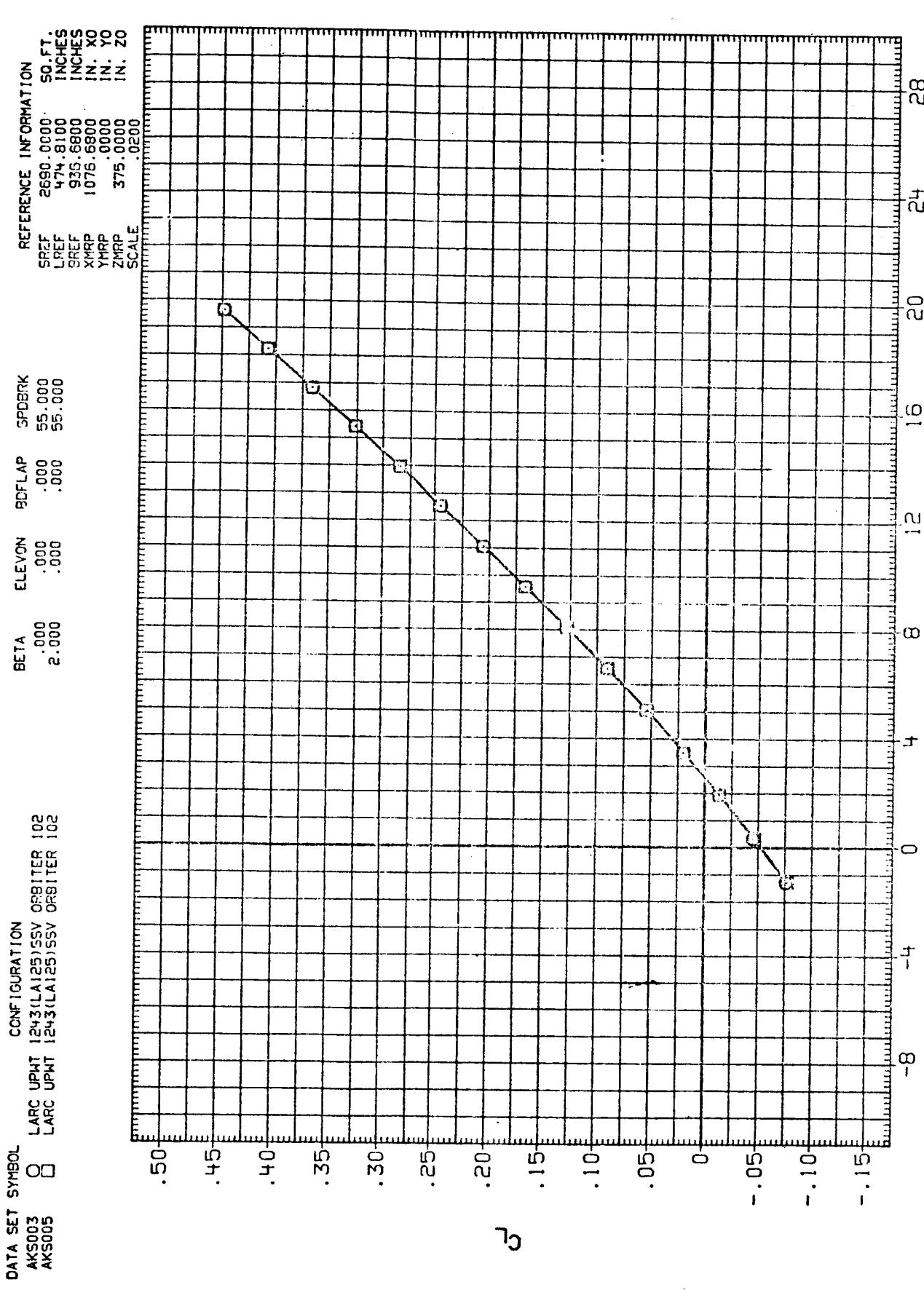


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 55 DEG.
(D)MACH = 4.00

DATA SET SYMBOL CONFIGURATION

AKS003	\square	LARC UPWT 1243(LA125)SSV ORBITER 102
AKS005	\circ	LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	.474-.8100	INCHES
BREF	.936	INCHES
XMRP	.5800	IN.
YMRP	1076.6800	XO
ZMRP	.0000	IN., YO
SCALE	.0200	IN. 20

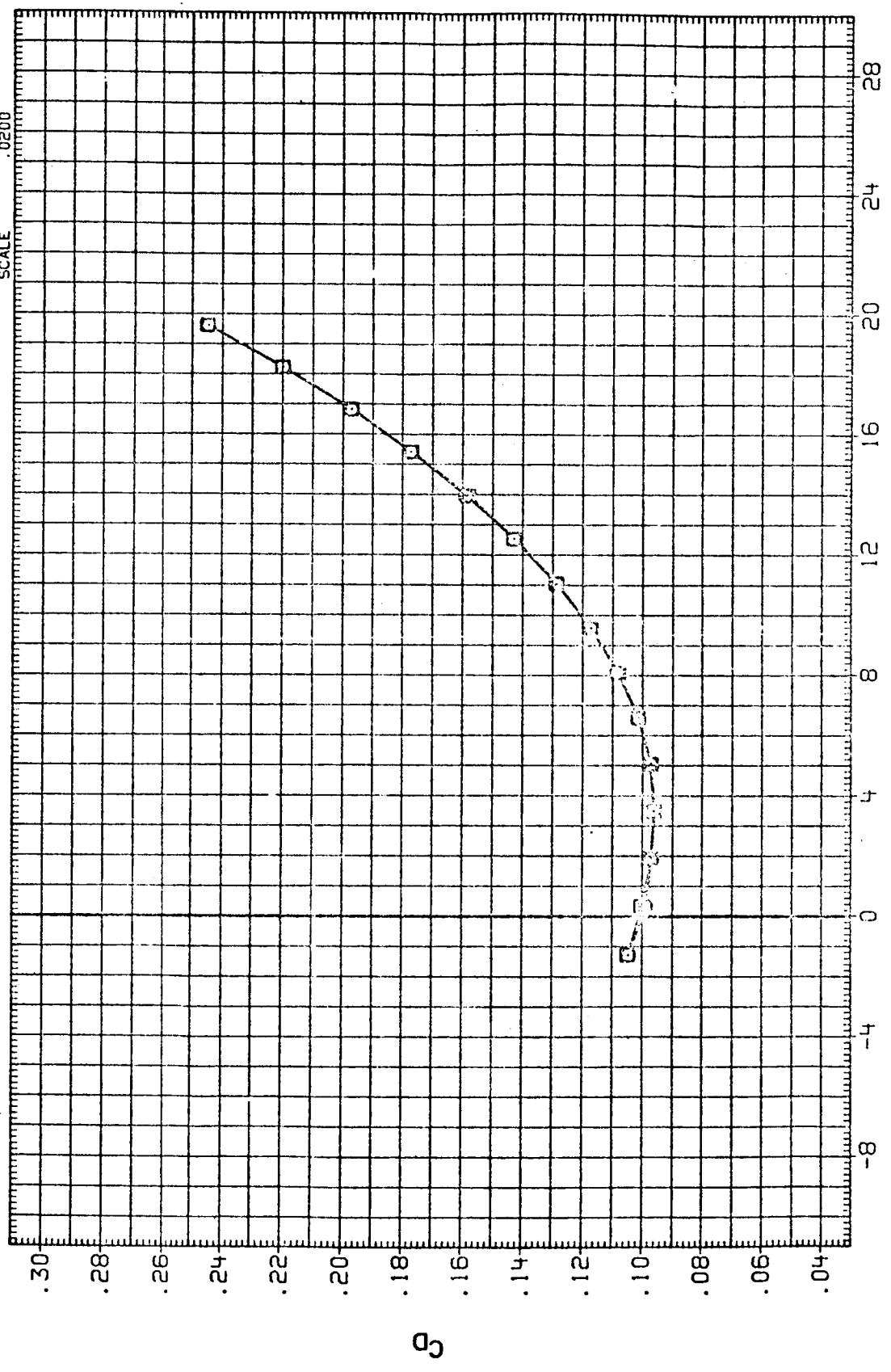


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 55 DEG.
(D)MACH = 4.00
PAGE 26

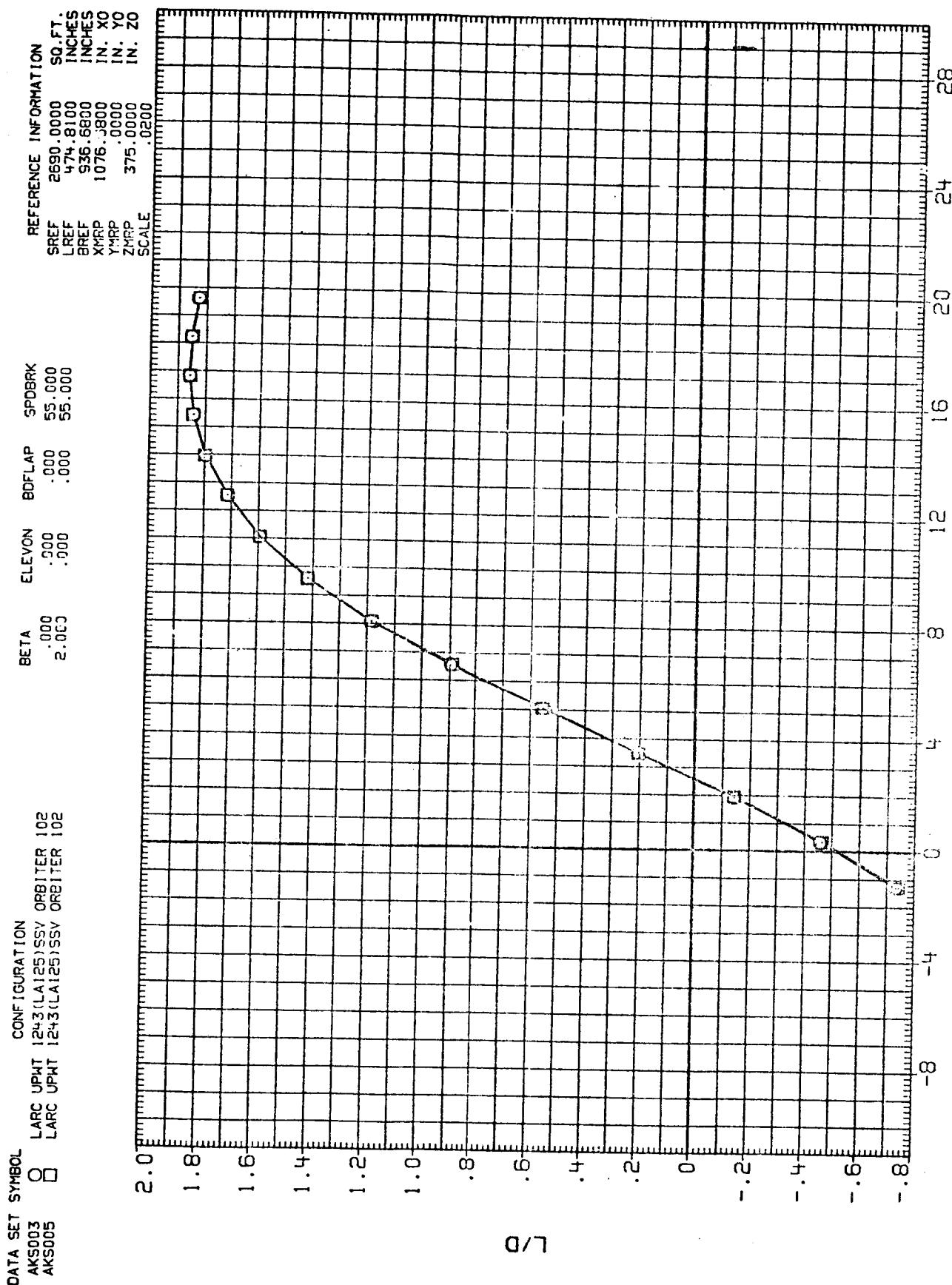


FIGURE 5. EFFECT OF SIDESLIP ON CRBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 55 DEG.
 (D)MACH = 4.00 PAGE 27

DATA SET SYMBOL CONFIGURATION
 AK5003 O LARC UPHT 1243(LA125)SSV ORBITER 102
 AK5005 □ LARC UPHT 1243(LA125)SSV ORBITER 102

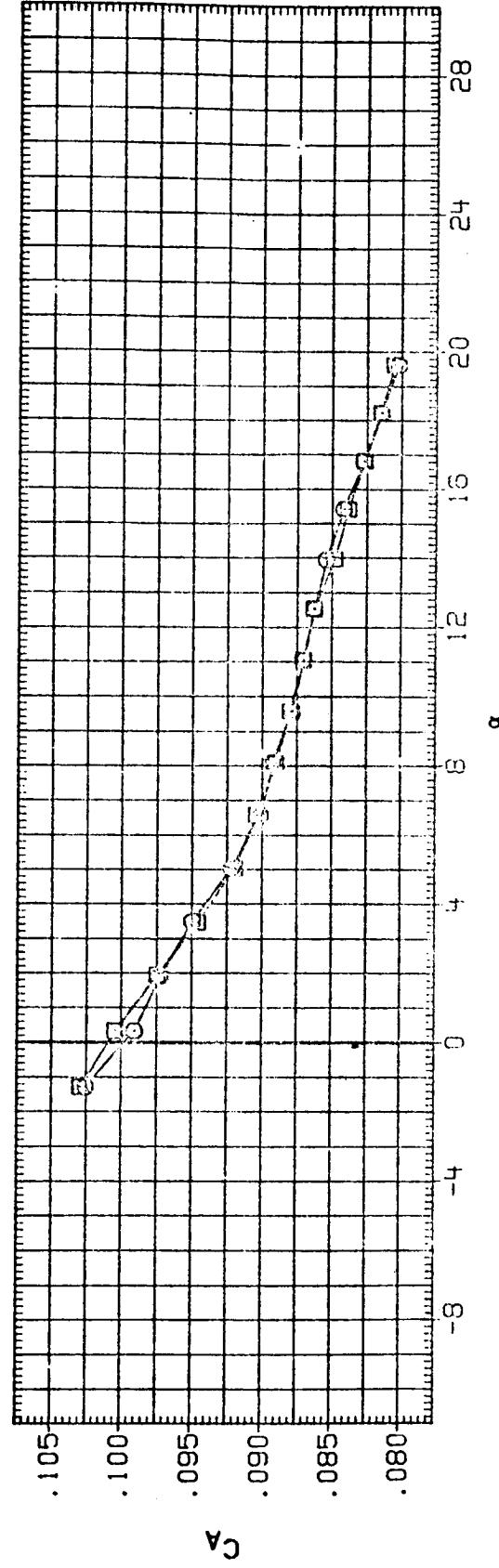
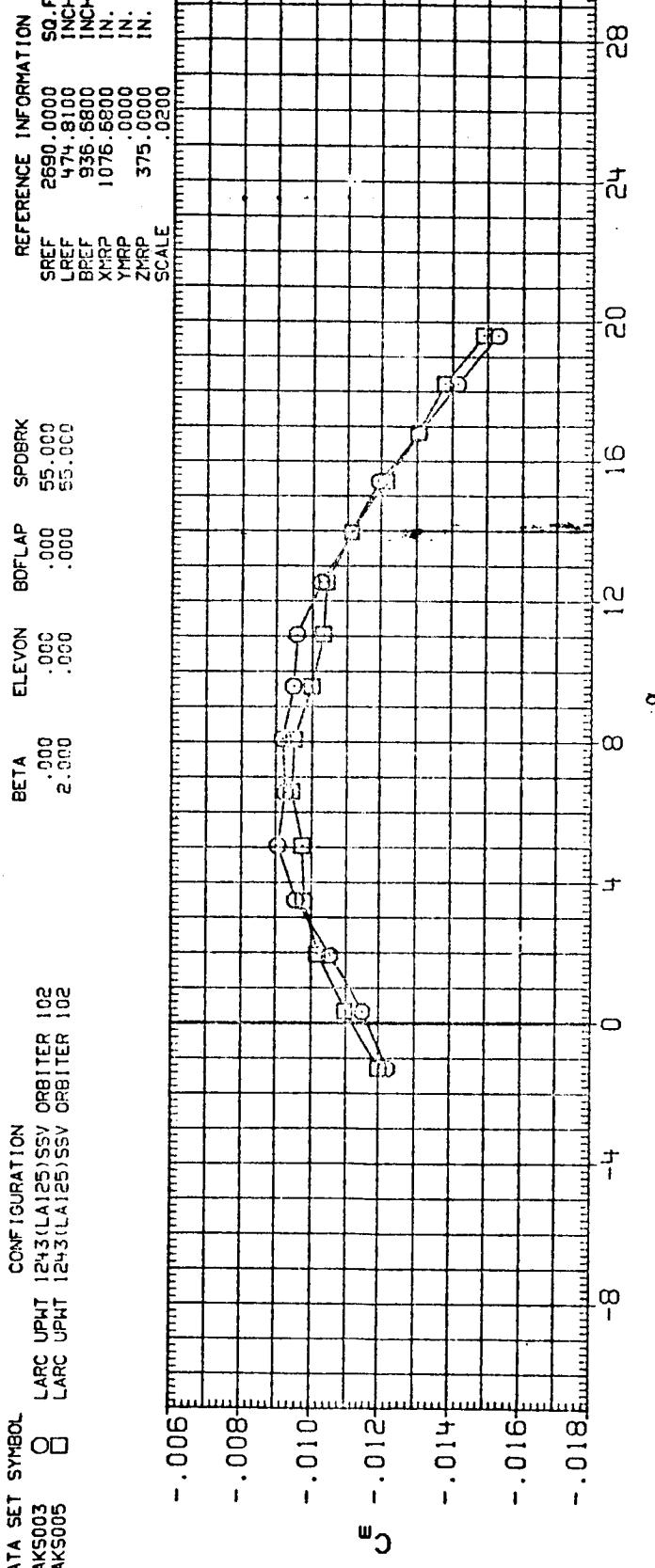


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 55 DEG.
 (D) MACH = 4.00 PAGE 28

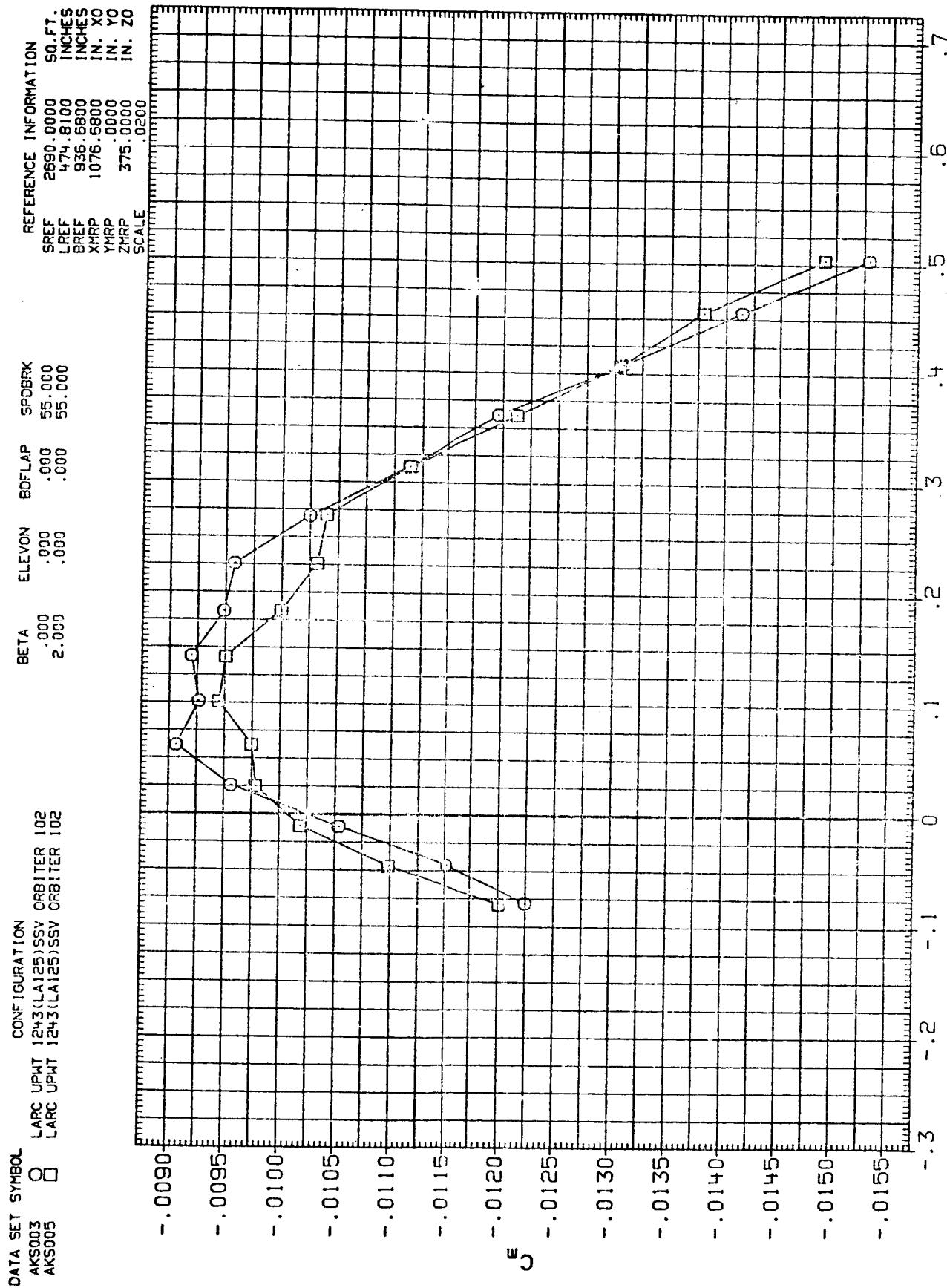


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 (D)MACH = 4.00
 SPEED BRAKE AT 55 DEG.
 PAGE 29

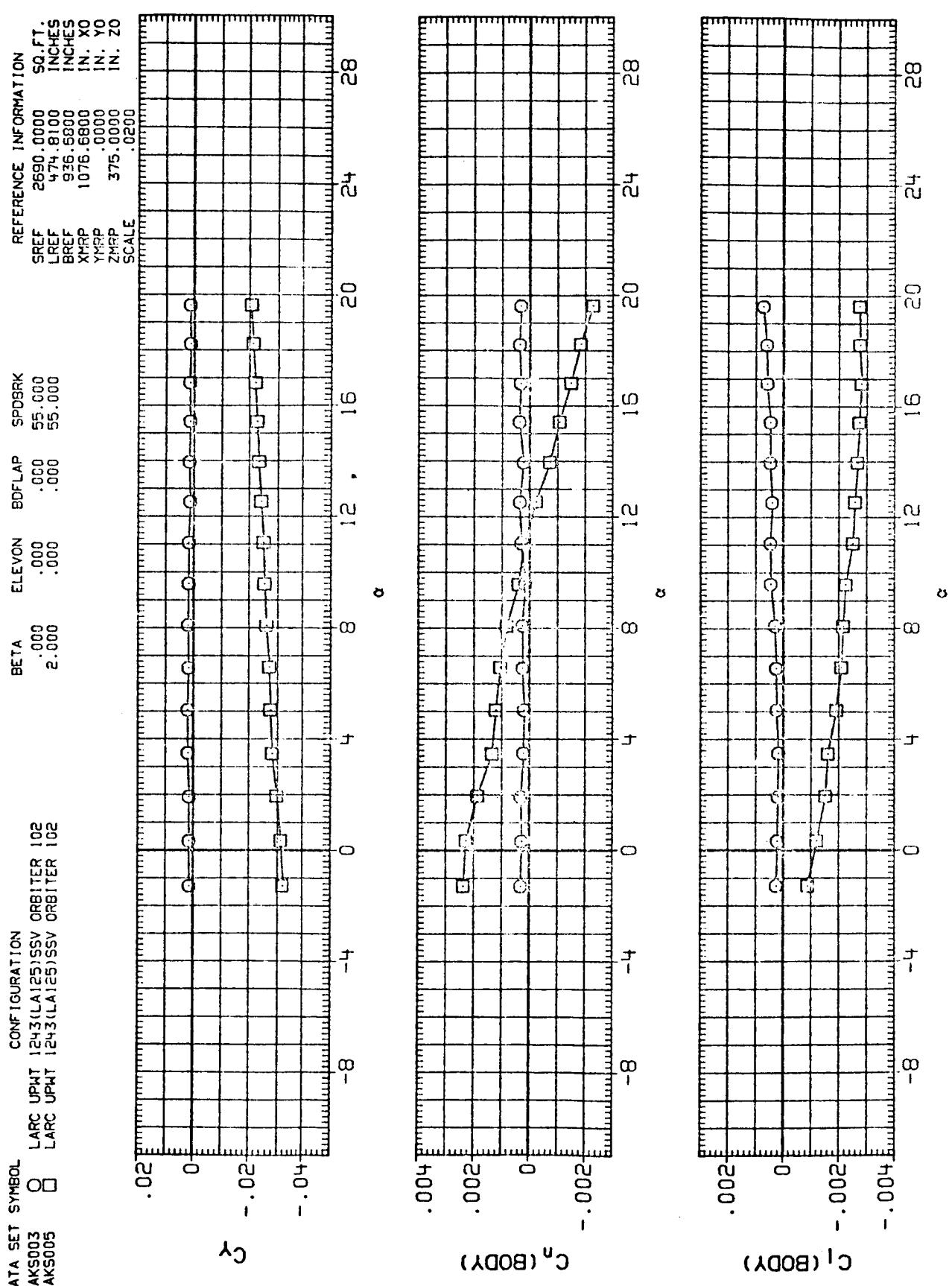


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 (D) MACH = 4.00
 SPEED BRAKE AT 55 DEG.
 PAGE 30

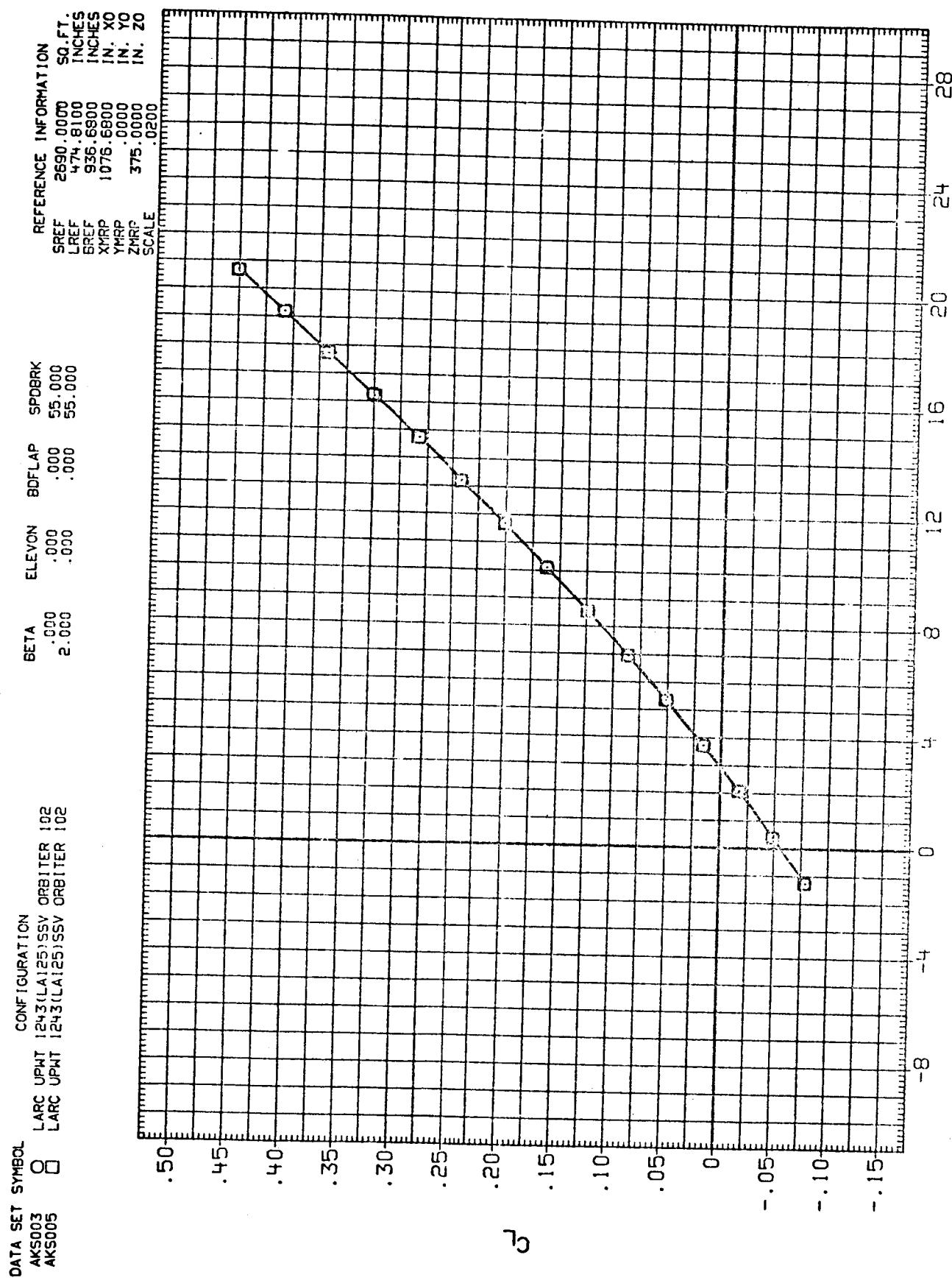
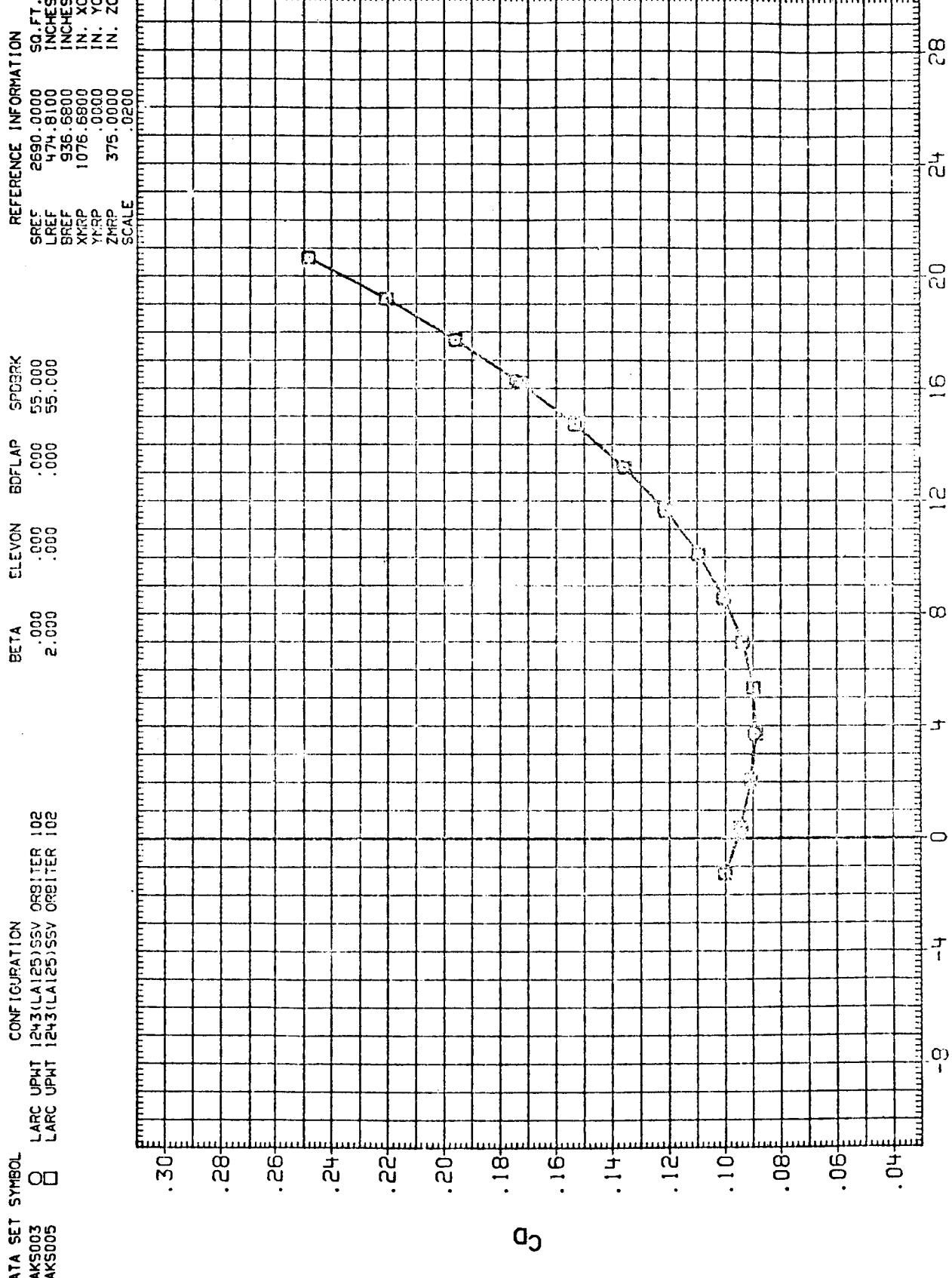


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 55 DEG.
PAGE 31

DATA SET SYMBOL CONFIGURATION
 AKS003 O LARC UPWT 1243(LA125)SSV ORBITER 102
 AKS005 □ LARC UPWT 1243(LA125)SSV ORBITER 102



(E) MACH = 4.50

FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 55 DEG.
 PAGE 32

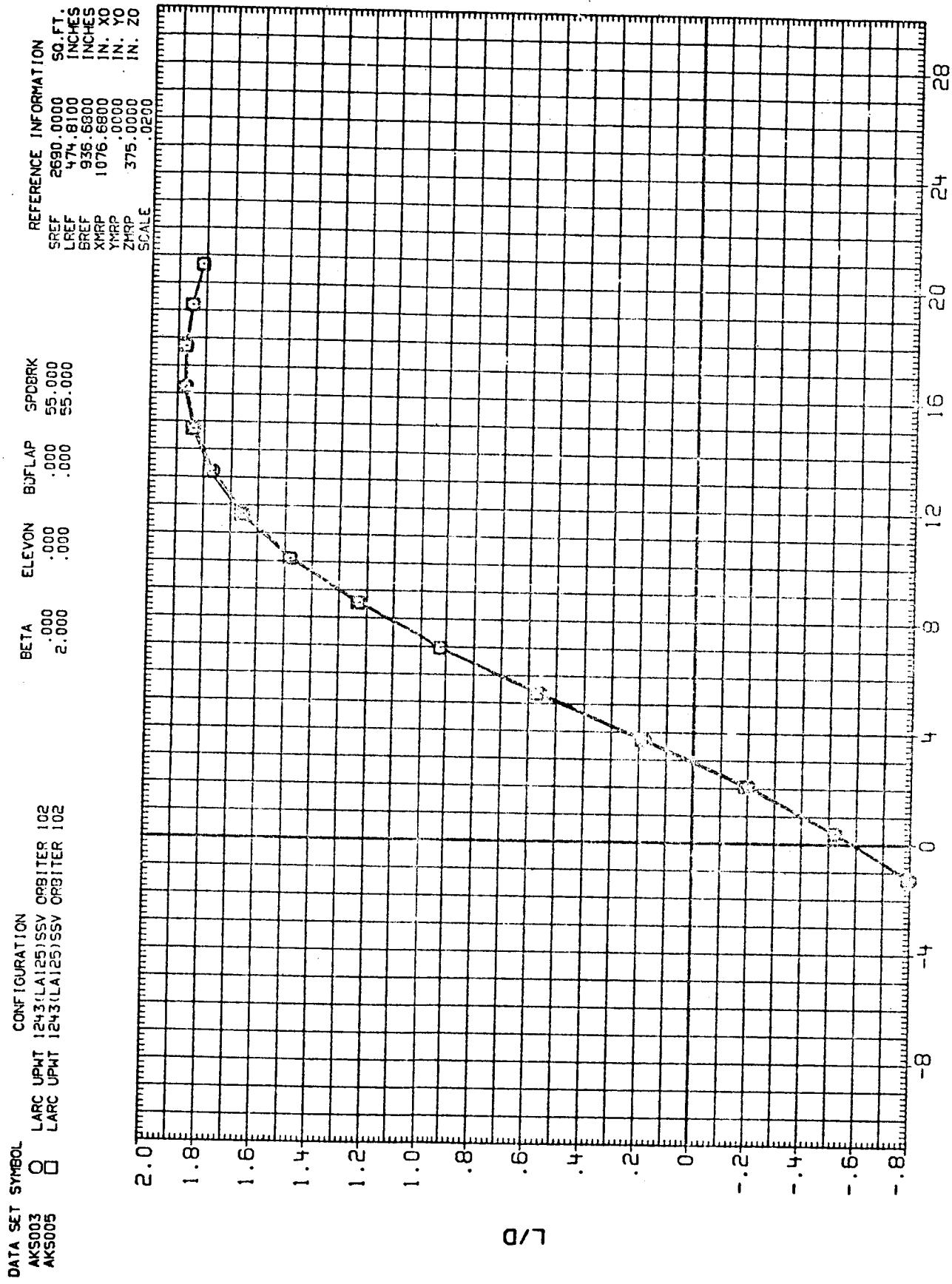


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 55 DEG.
 (E)MACH = 4.50
 PAGE 33

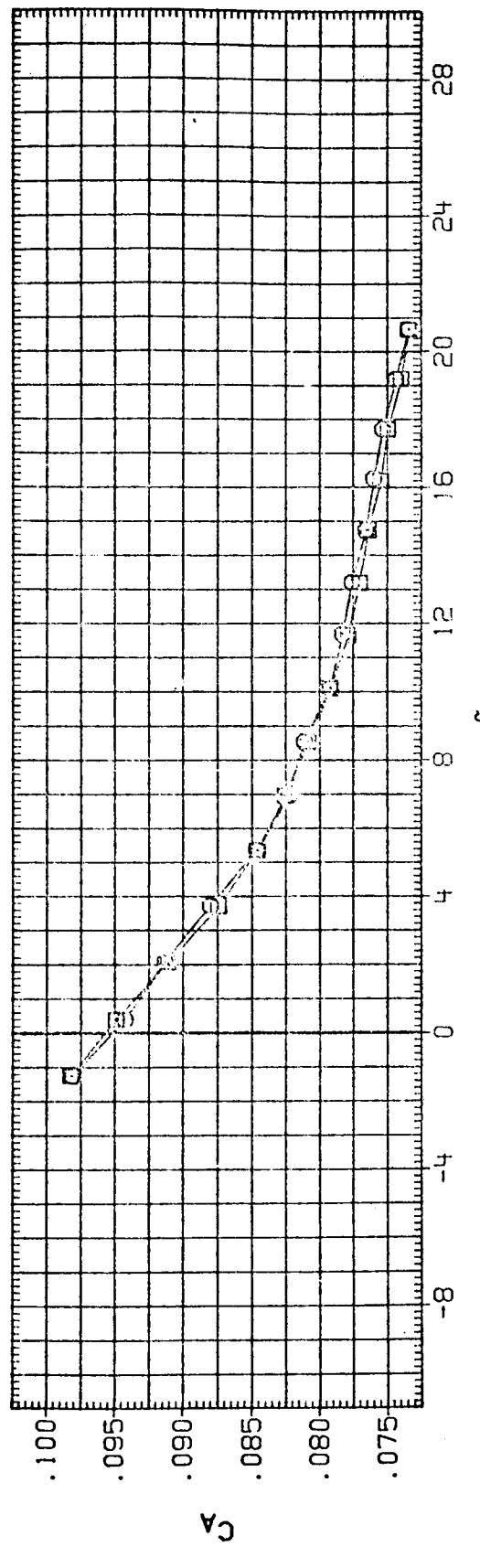
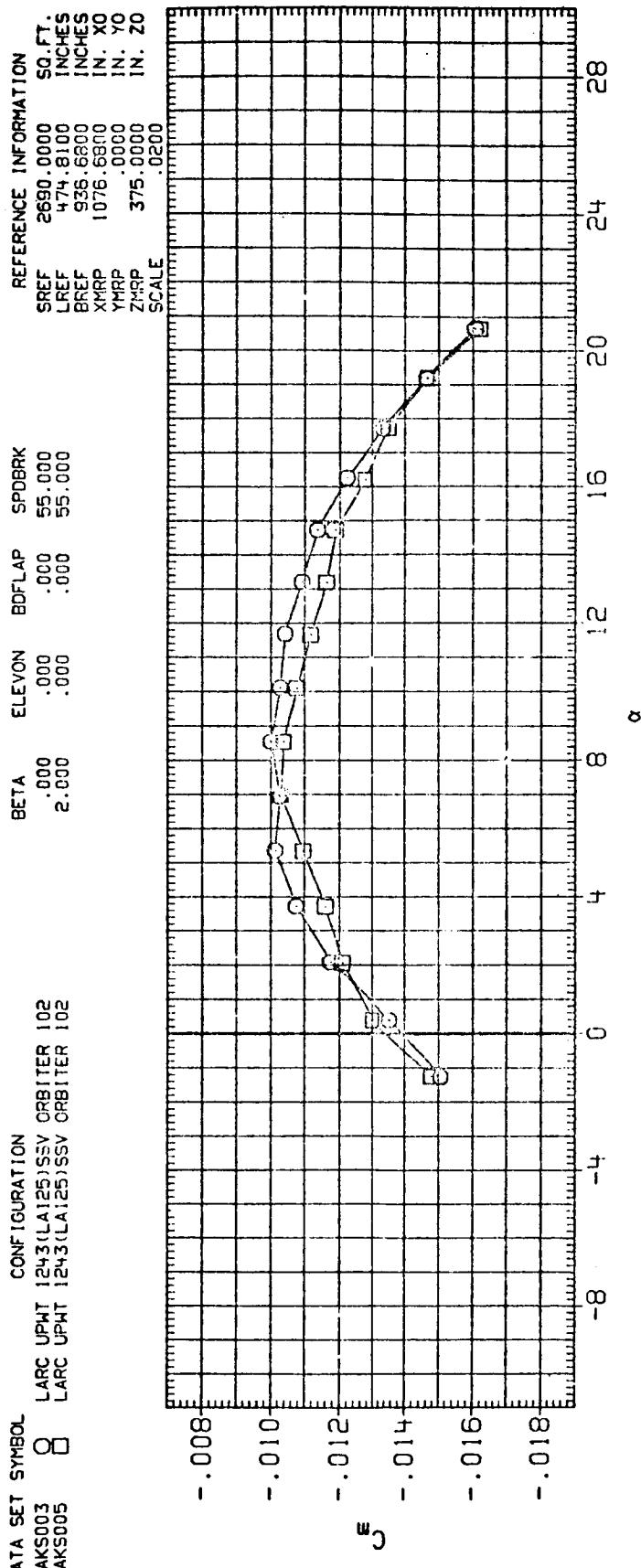


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
(E) MACH = 4.50
SPEED BRAKE AT 55 DEG.
PAGE 34

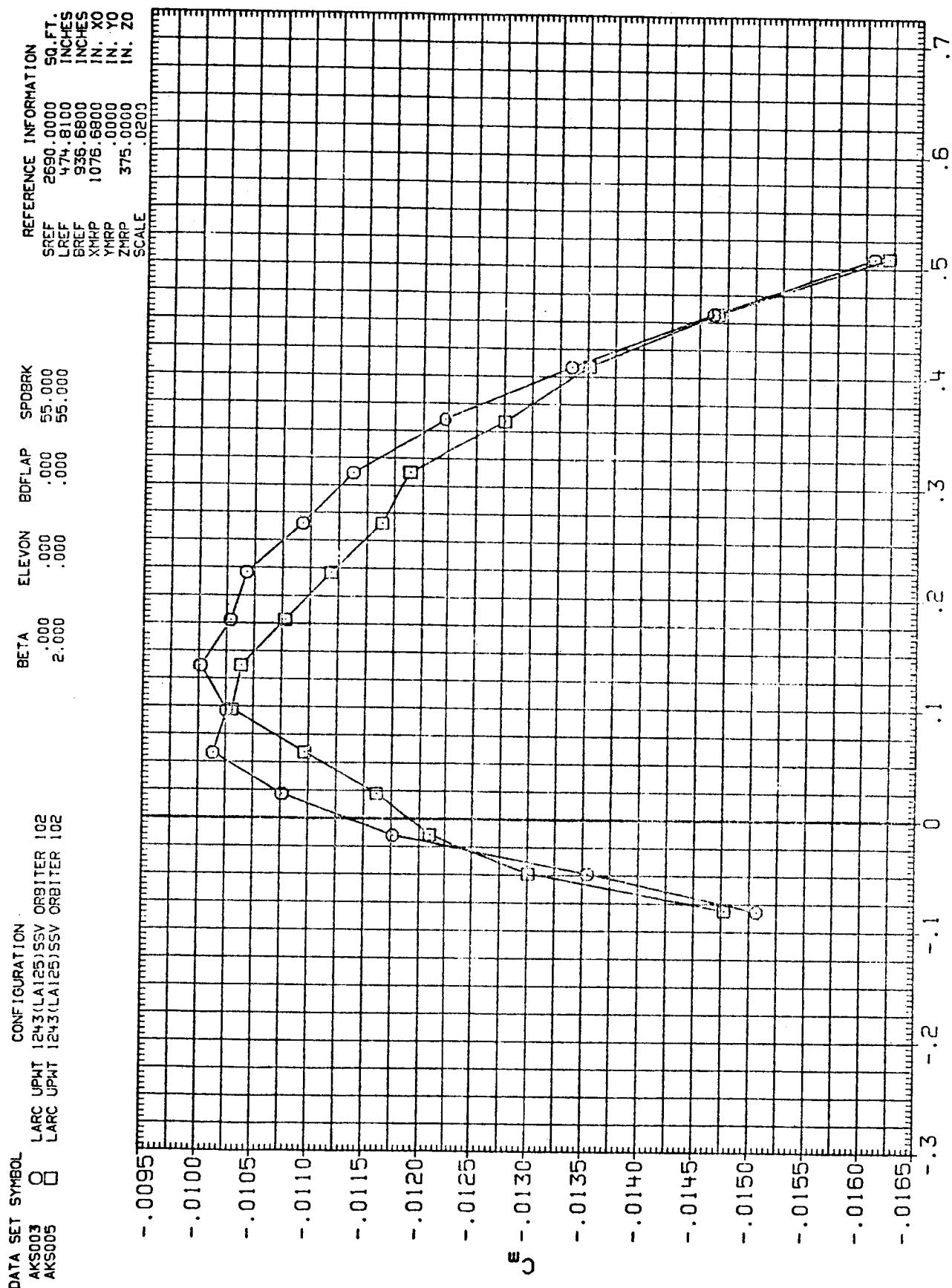
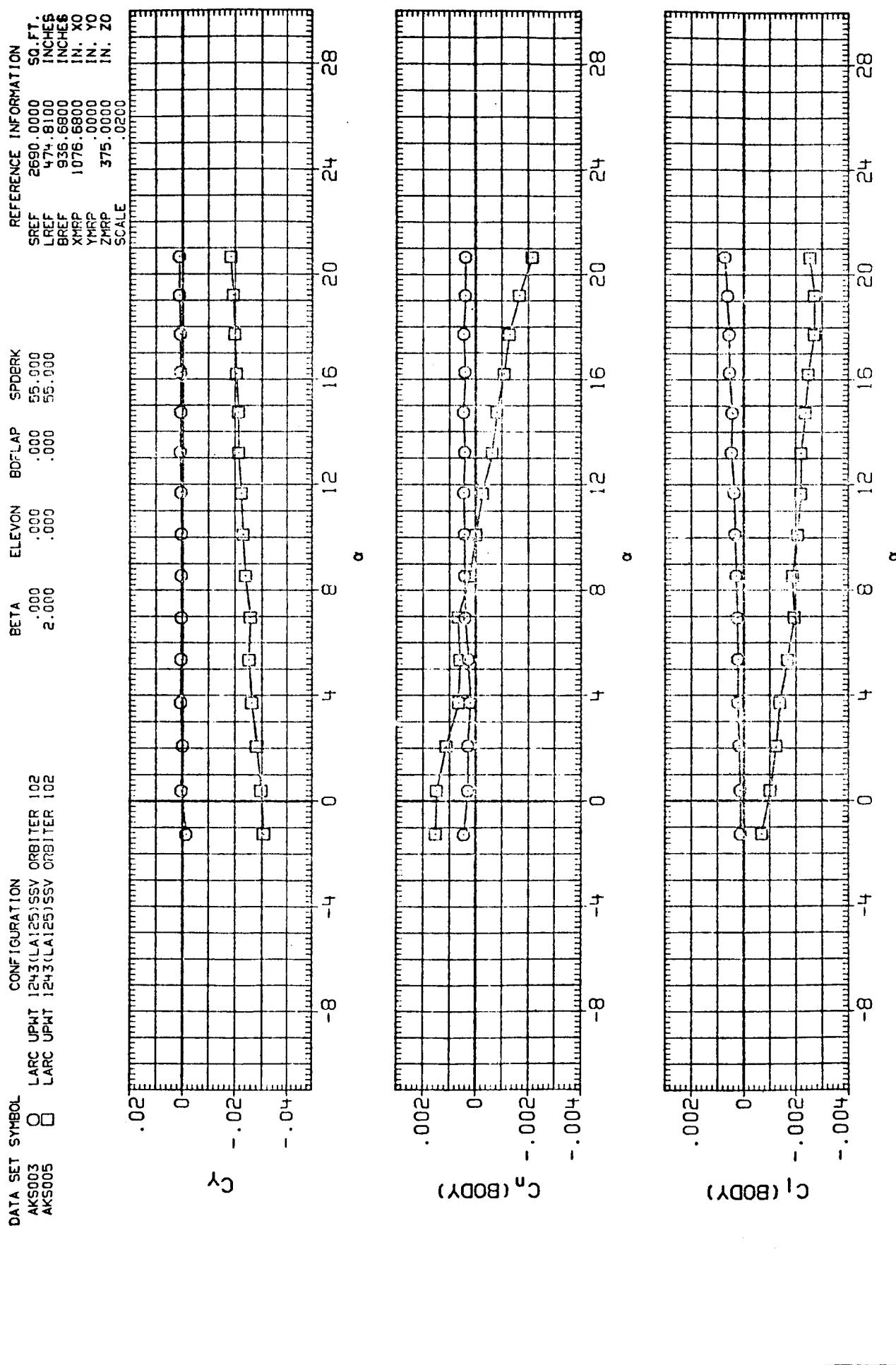


FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 55 DEG.
 (E) MACH = 4.50 PAGE 35



(E) MACH = 4.50

FIGURE 5. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 55 DEG.

PAGE 36

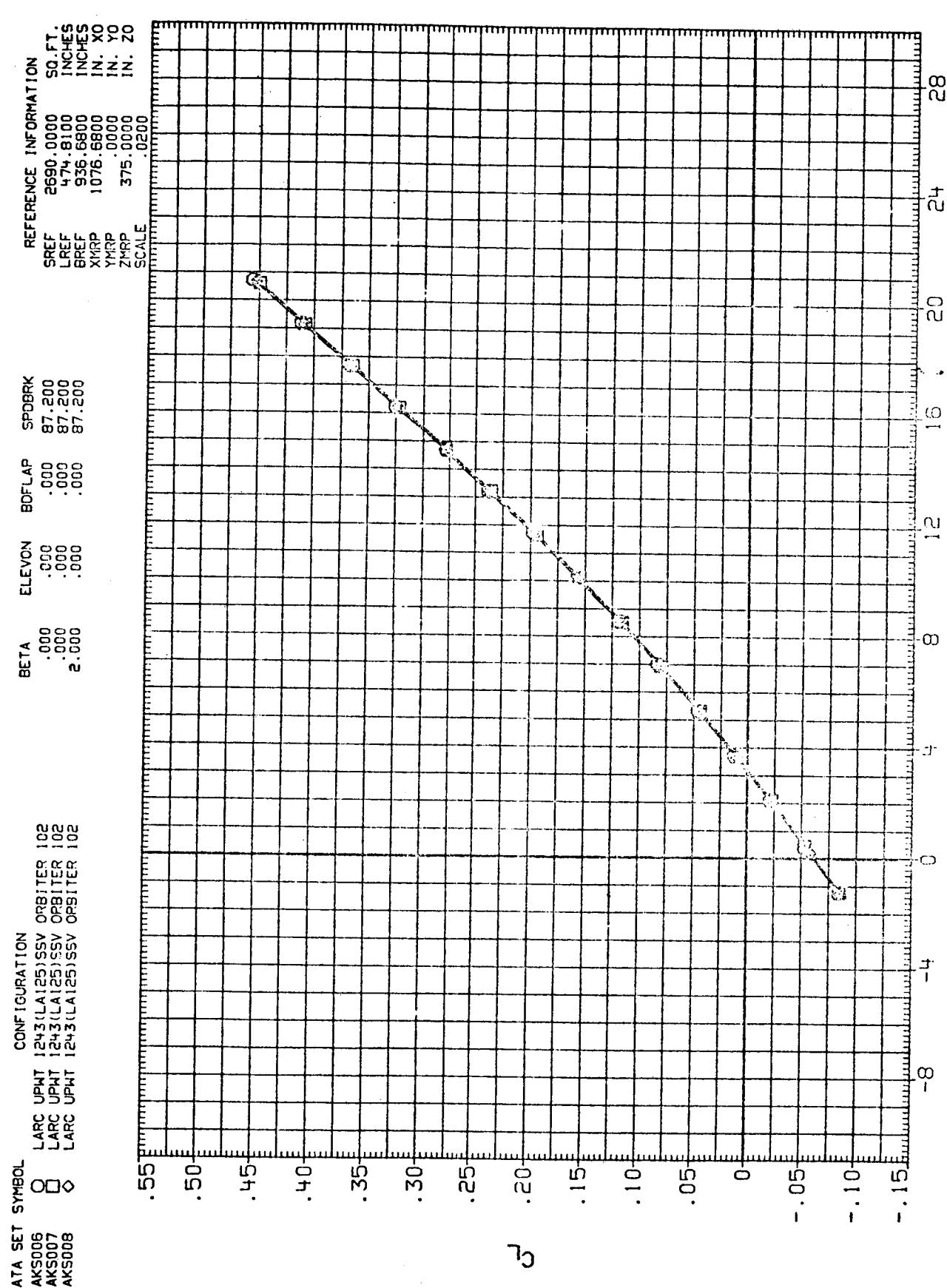


FIGURE 6. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
(A) MACH = 4.50

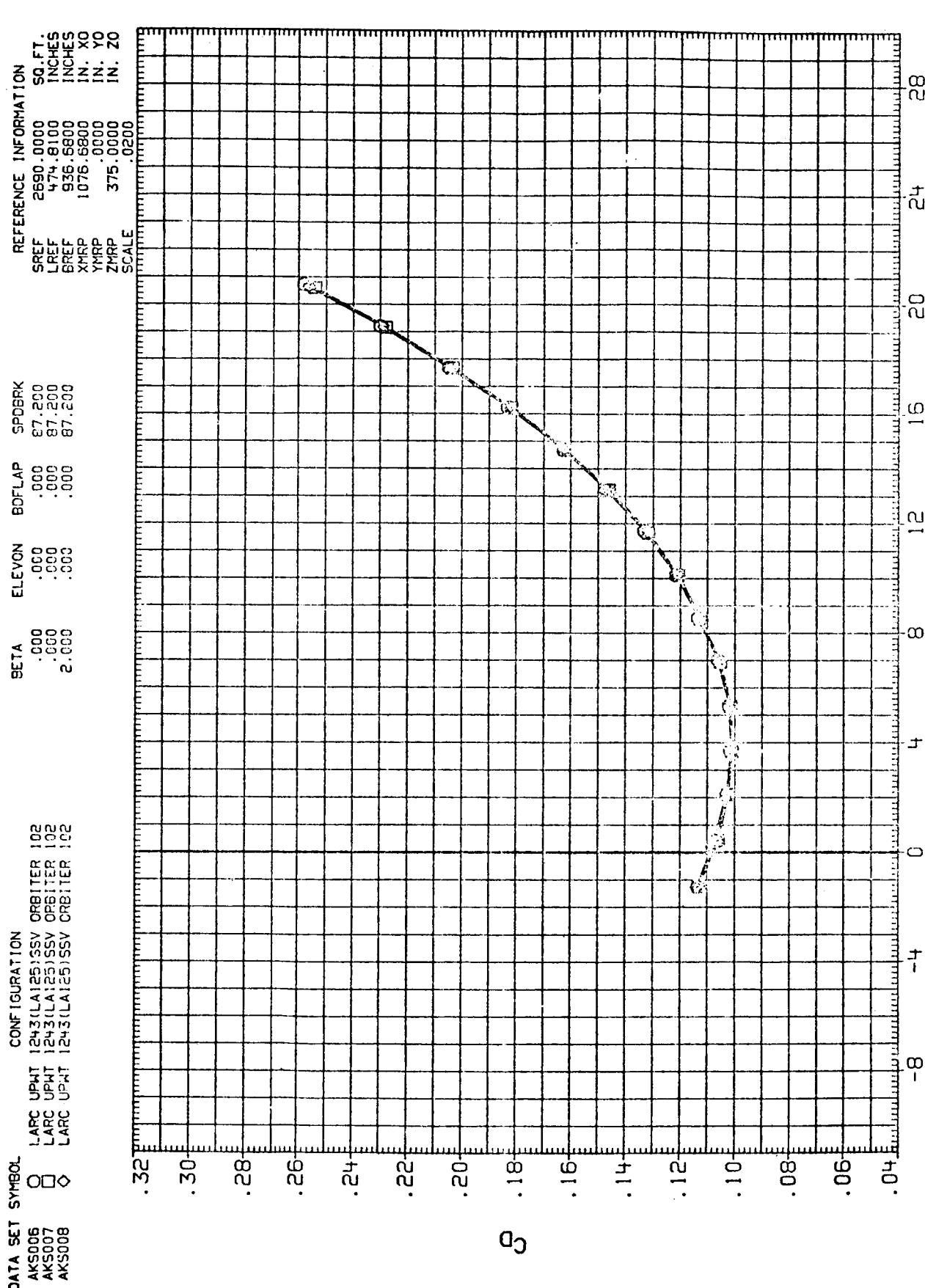


FIGURE 6. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 87.2 DEG.
(A)MACH = 4.50

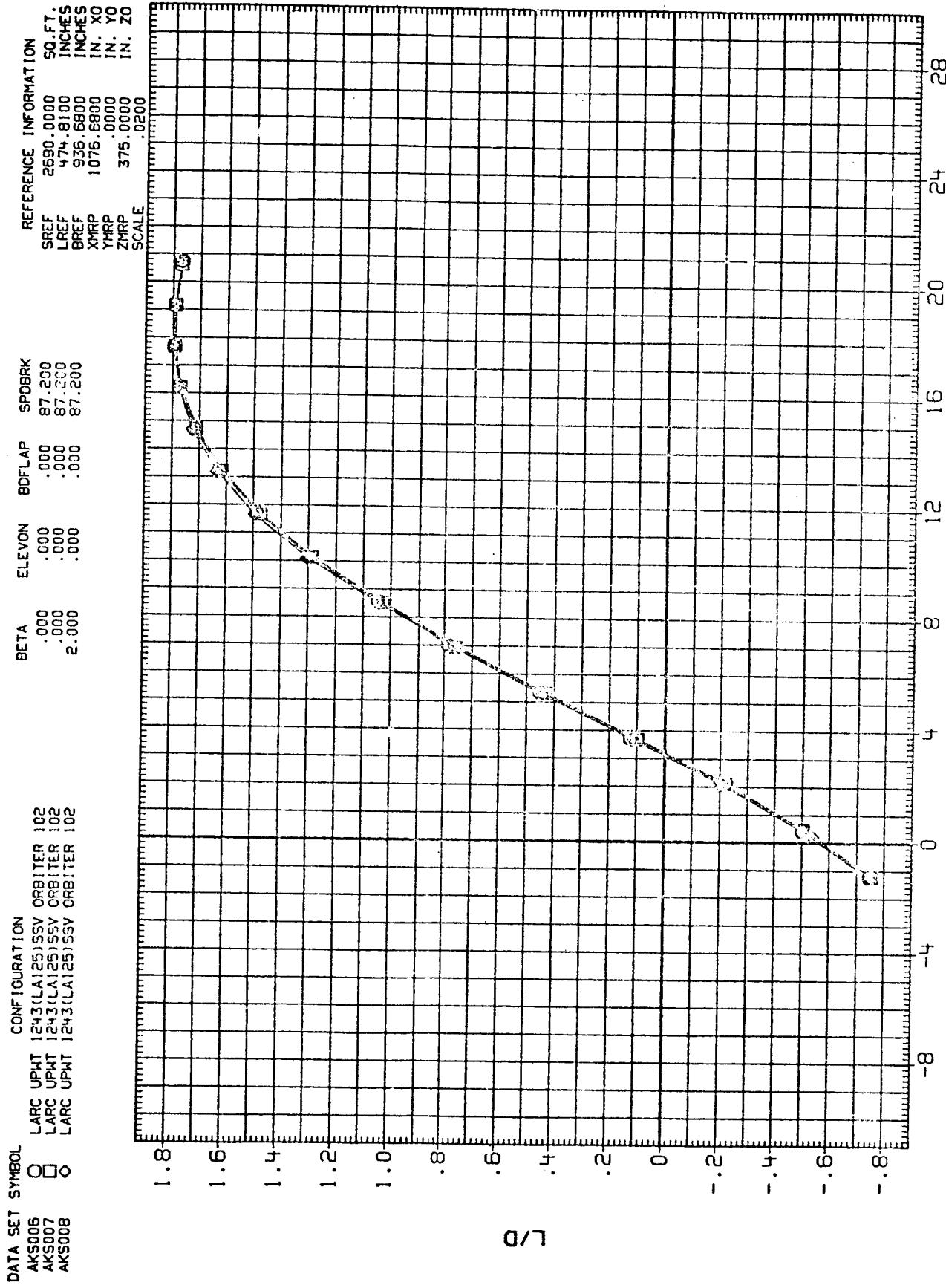


FIGURE 6. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
 SPEED BRAKE AT 87.2 DEG.
 (A) MACH = 4.50 PAGE 39

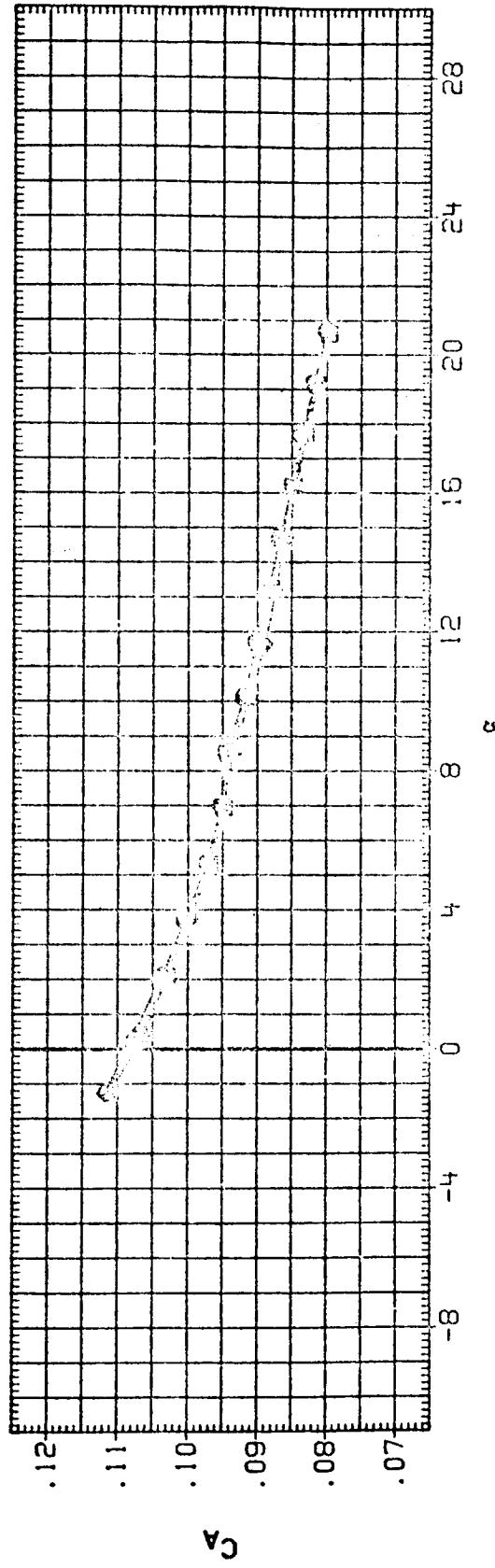
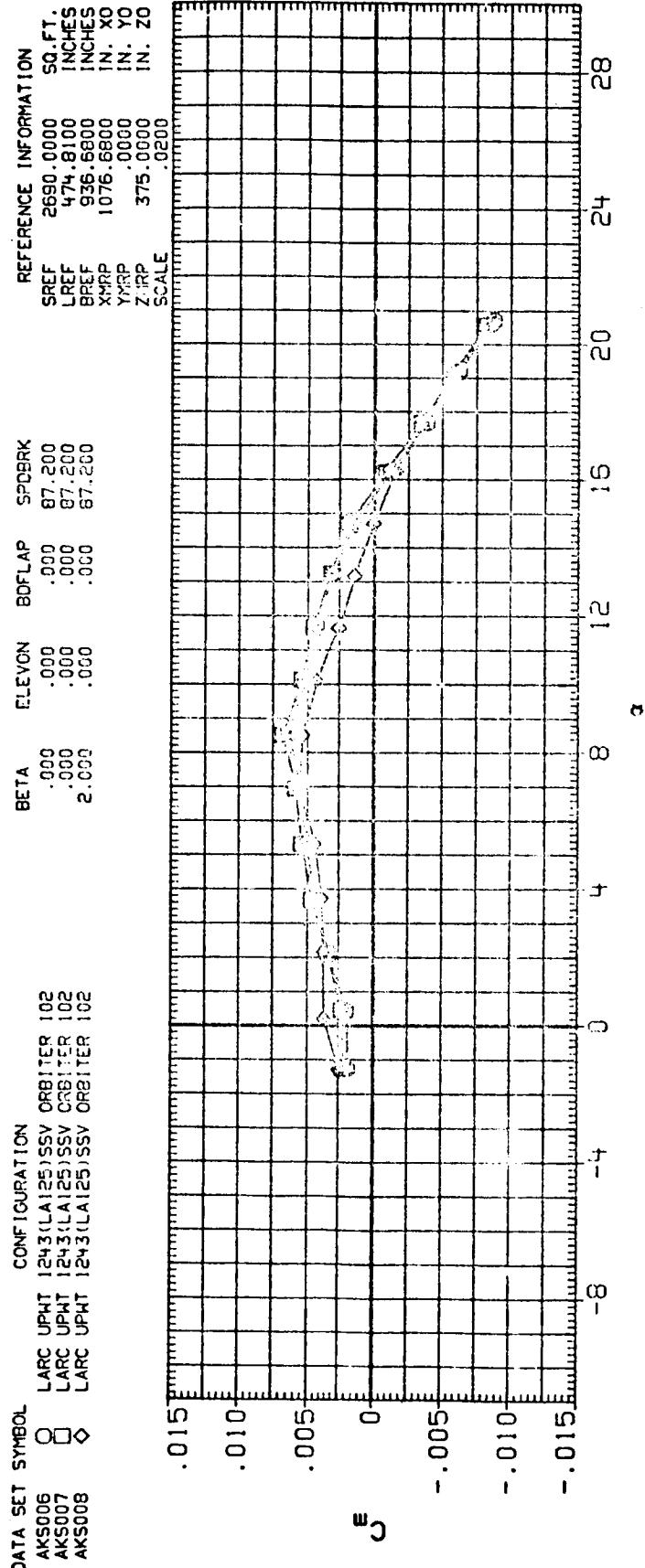
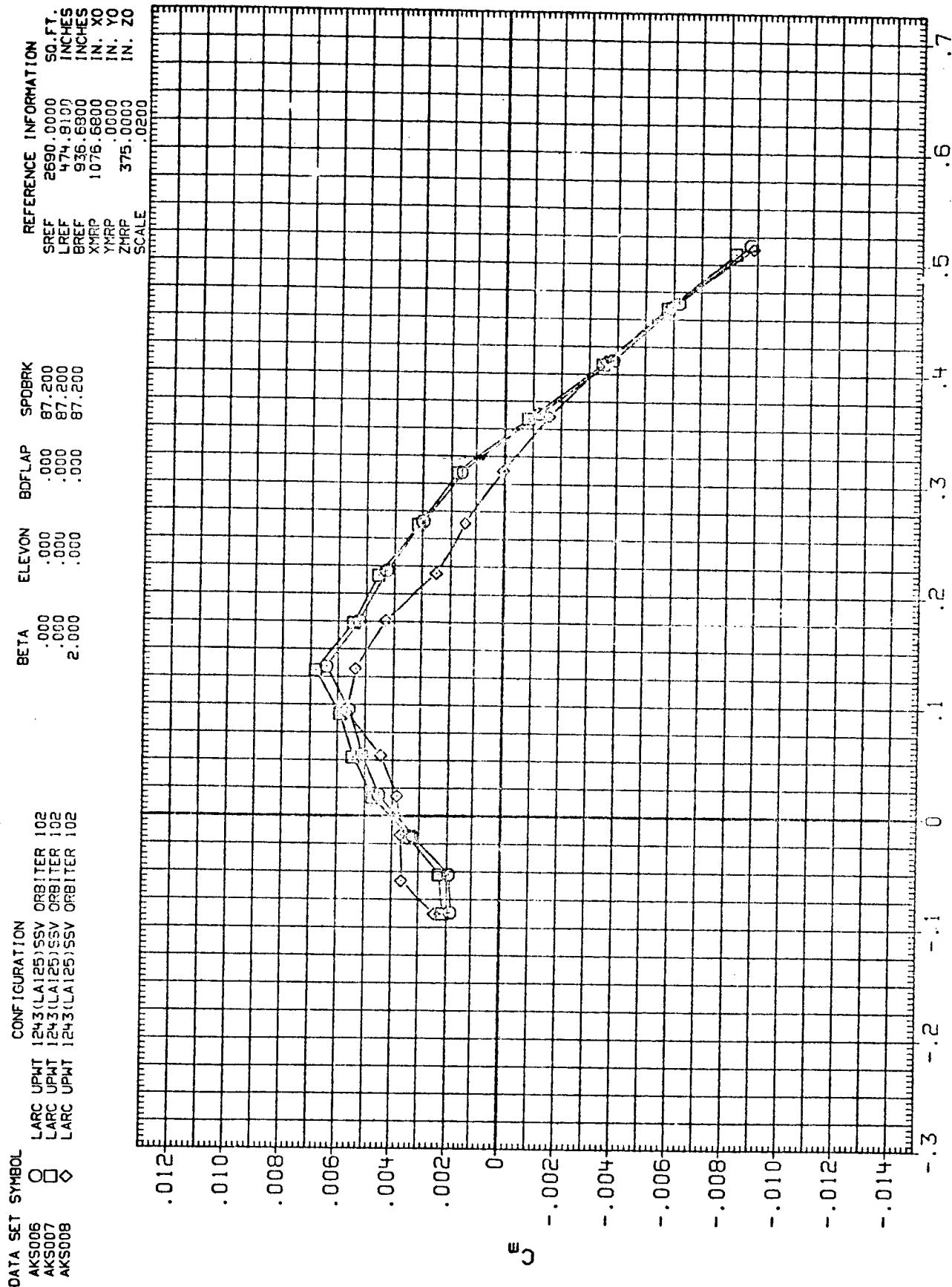


FIGURE 6. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 87.2 DEG.
(A) MACH = 4.50 PAGE 40



(A) MACH = 4.50

FIGURE 6. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 87.2 DEG.

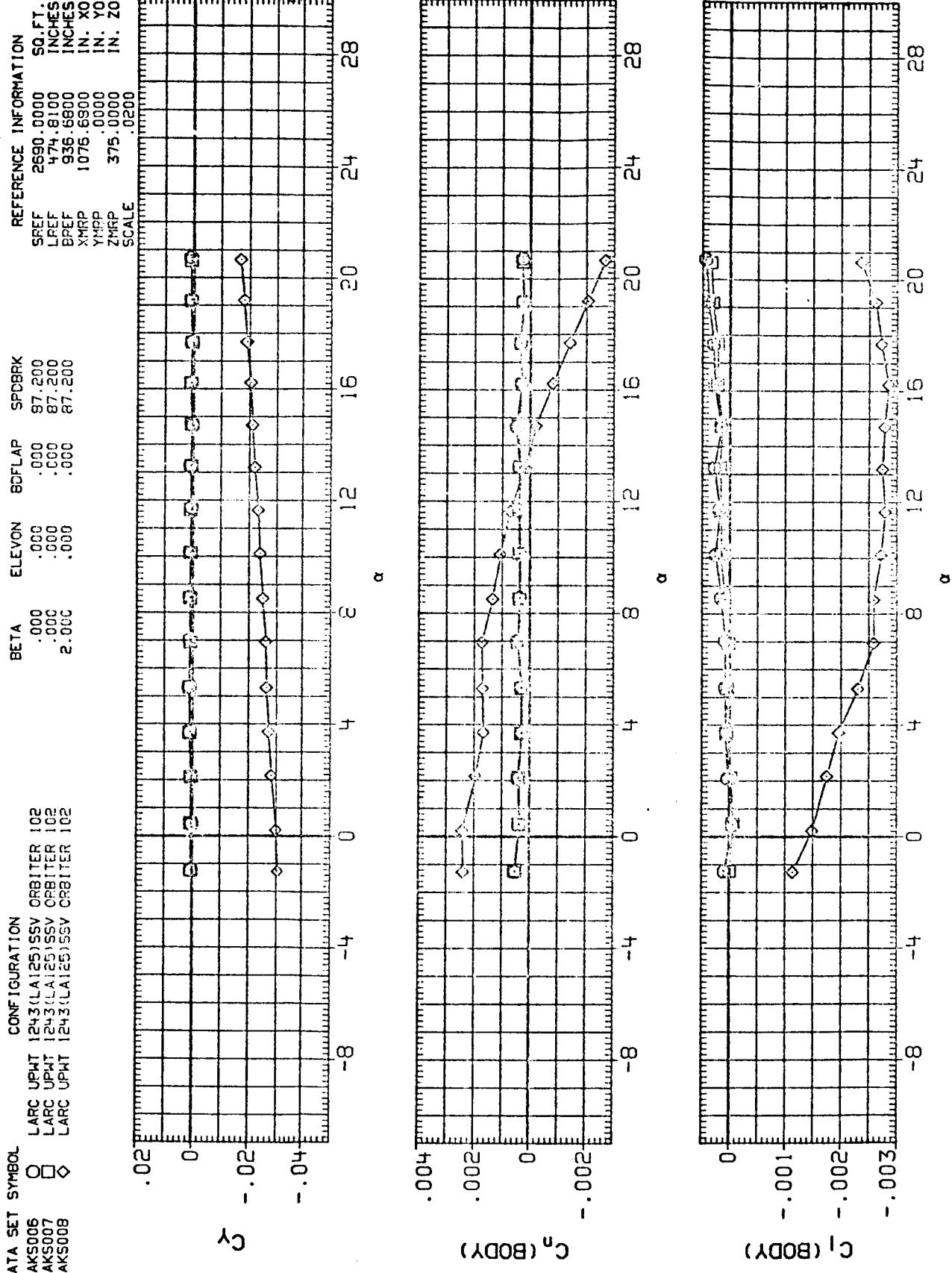


FIGURE 6. EFFECT OF SIDESLIP ON ORBITER AERODYNAMIC CHARACTERISTICS
SPEED BRAKE AT 87.2 DEG.
(A) MACH = 4.50 PAGE 42

AKS009 CONFIGURATION LARC UPWT 1243(LA)1251SSV ORBITER 102
 SYMBOL MACH ALPHA ELEVON BOFLAP SPCBRK RUDDER
 O 4.500 .000 .000 25.000 .000

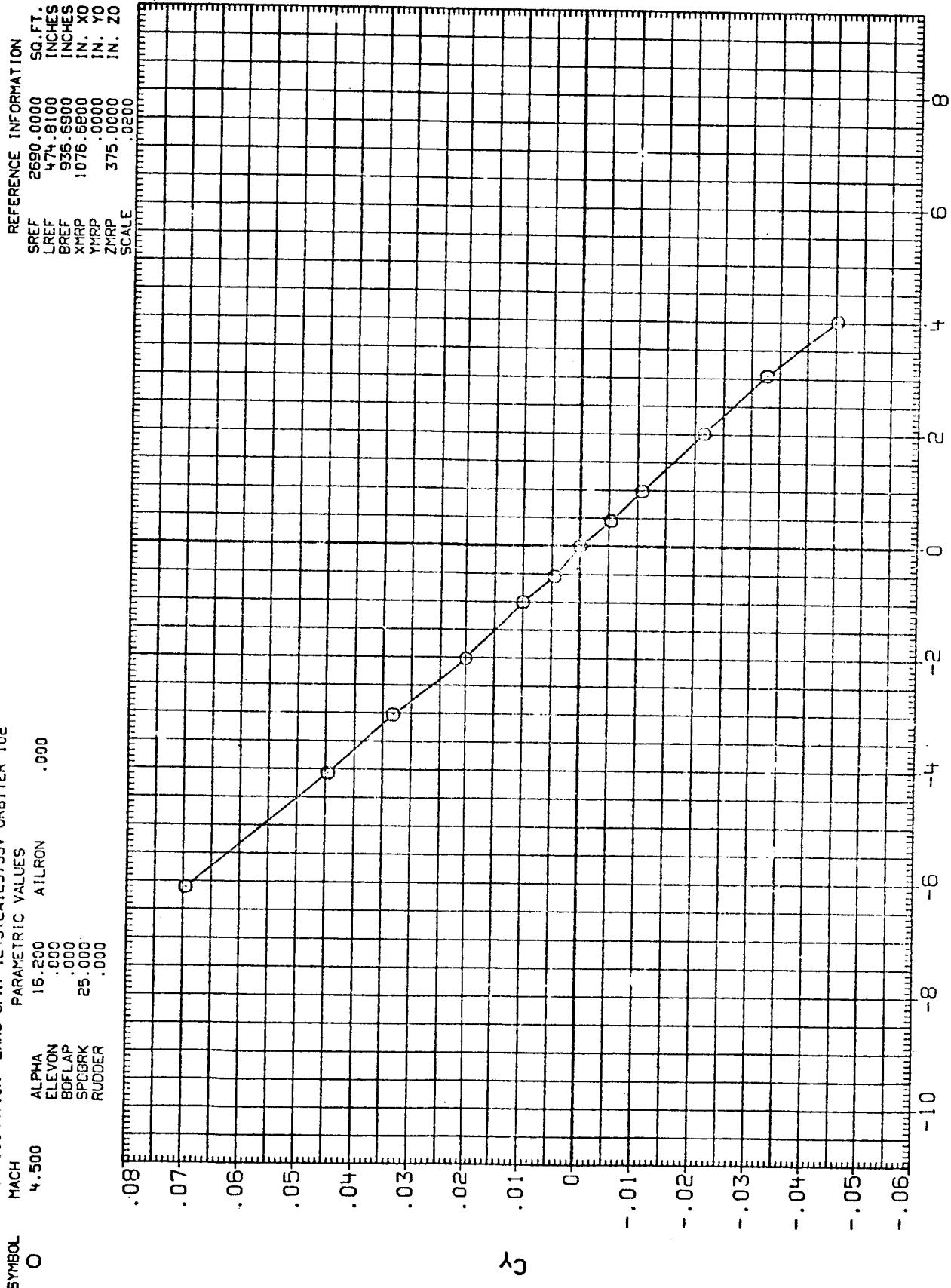


FIGURE 7. ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP
 SPACED BRAKE AT 25 DEG.
 PAGE 43

AKS009 CONFIGURATION LARC UPWT 1243(LA125)SSV ORBITER 102
 MACH 4.500 PARAMETRIC VALUES
 ALPHA 16.200 AILRON .000
 ELEVON .000
 BDFLAP .000
 SPDEK 25.000
 RUDDER .000

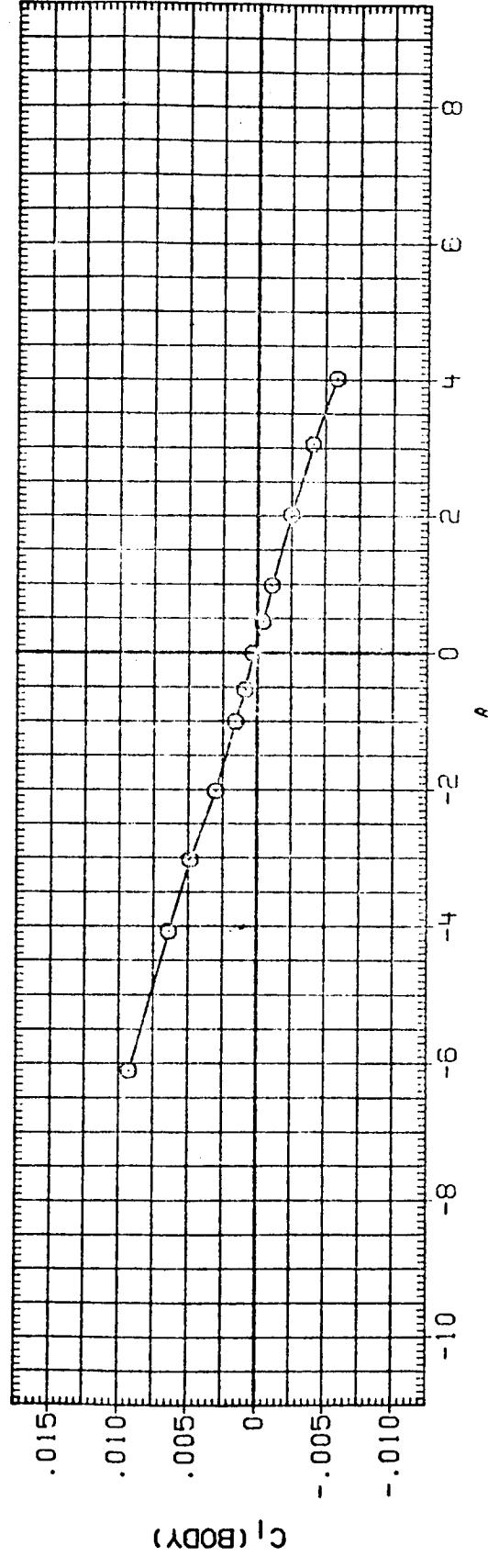
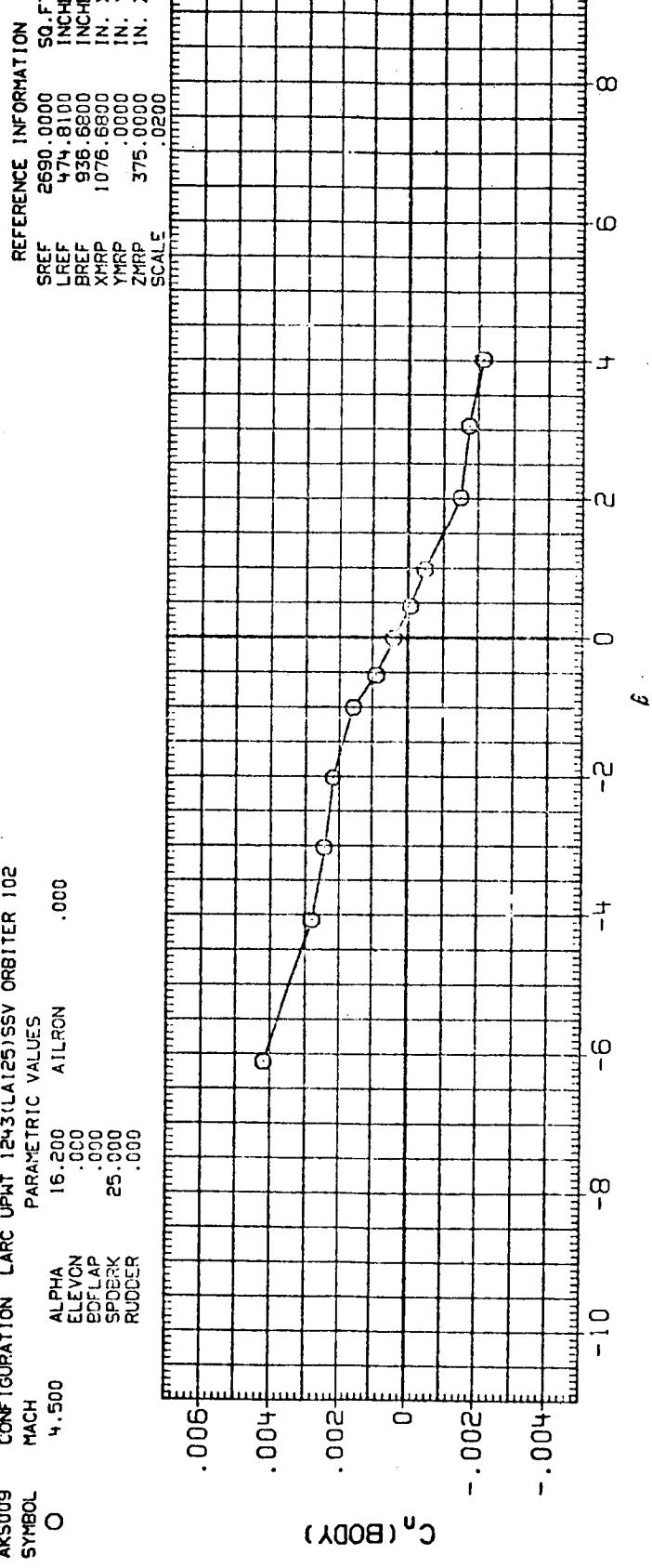


FIGURE 7. ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 25 DEG.
PAGE 44

AKS010
 CONFIGURATION LARC UPNT 1243 (LA125) SSV ORBITER 102
 MACH SYMBOL
 2.500 ALPHA 3.500 AILRDN .0CJ
 ELEVON .000
 BOFLAP .000
 SPDBRK 55.000
 RUDDER .000

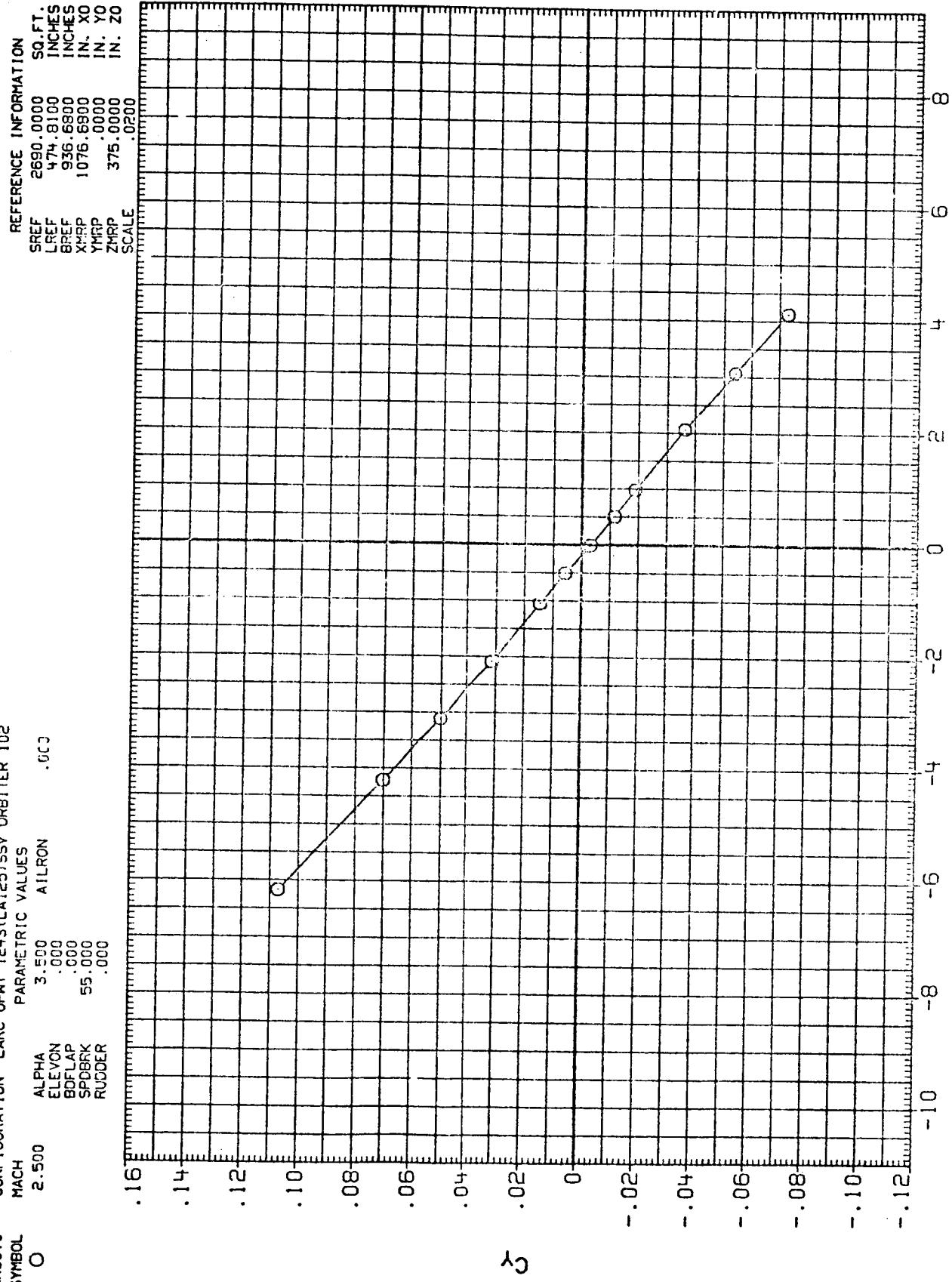


FIGURE 8(A). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE

AKS010 CONFIGURATION LARC UPHT 1243(LA125)SSV ORBITER 102
 MACH SYMBOL PARAMETRIC VALUES
 2.500 O ALPHA 3.500 AILRDN .000
 ELEVON .000
 BDFLAP .000
 SPDRK 55.000
 RUDDER .000

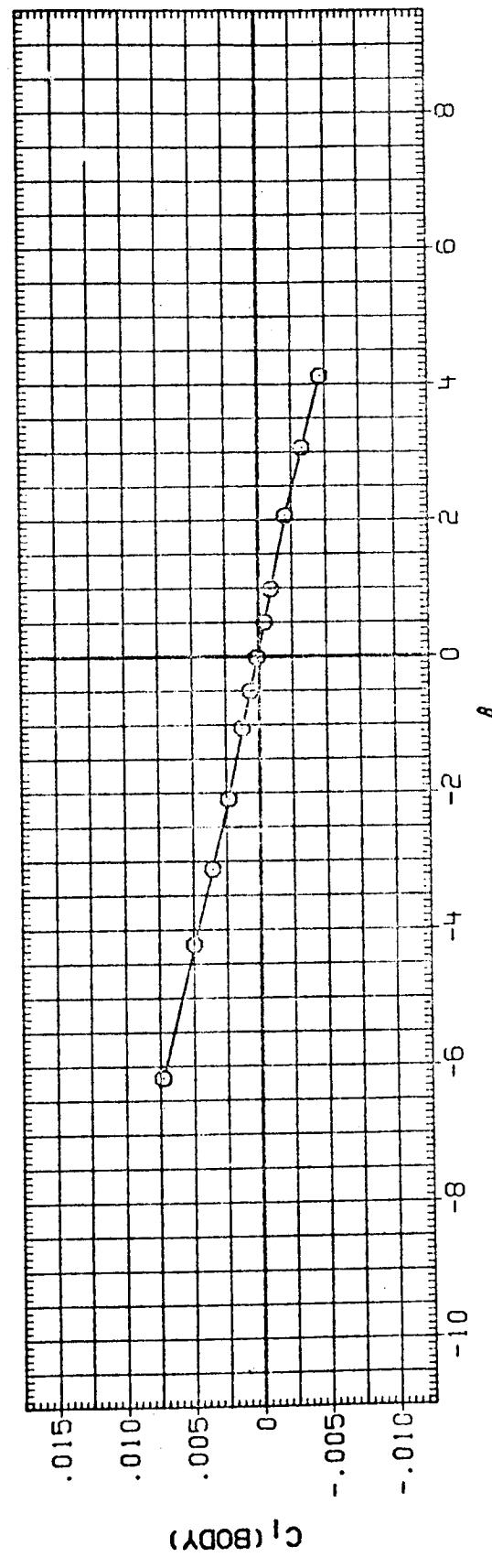
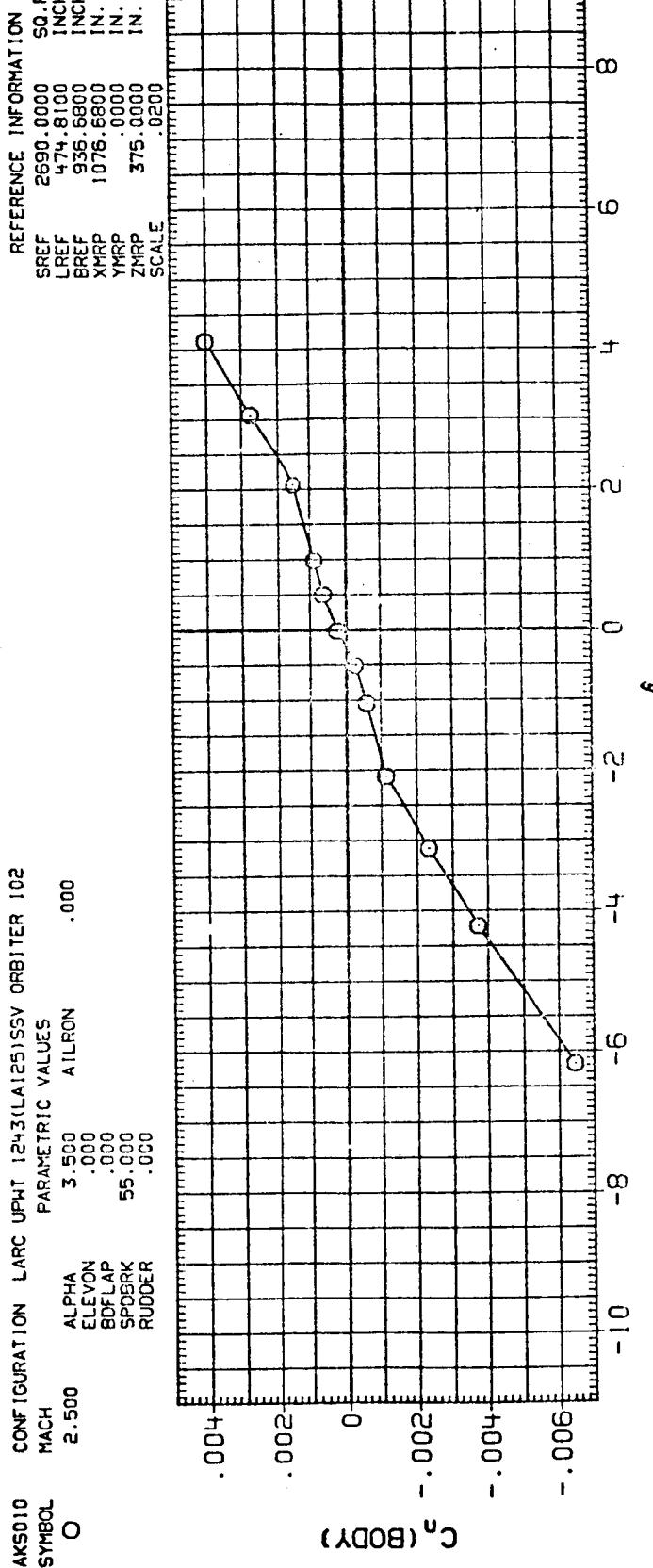


FIGURE 8(A). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 46

AKSD11 CONFIGURATION LARC UPWT 1243(LA)25)SSV ORBITER 102
 SYMBOL MACH PARAMETRIC VALUES
 O 3.000 ALPHA .9000 AILRON .000

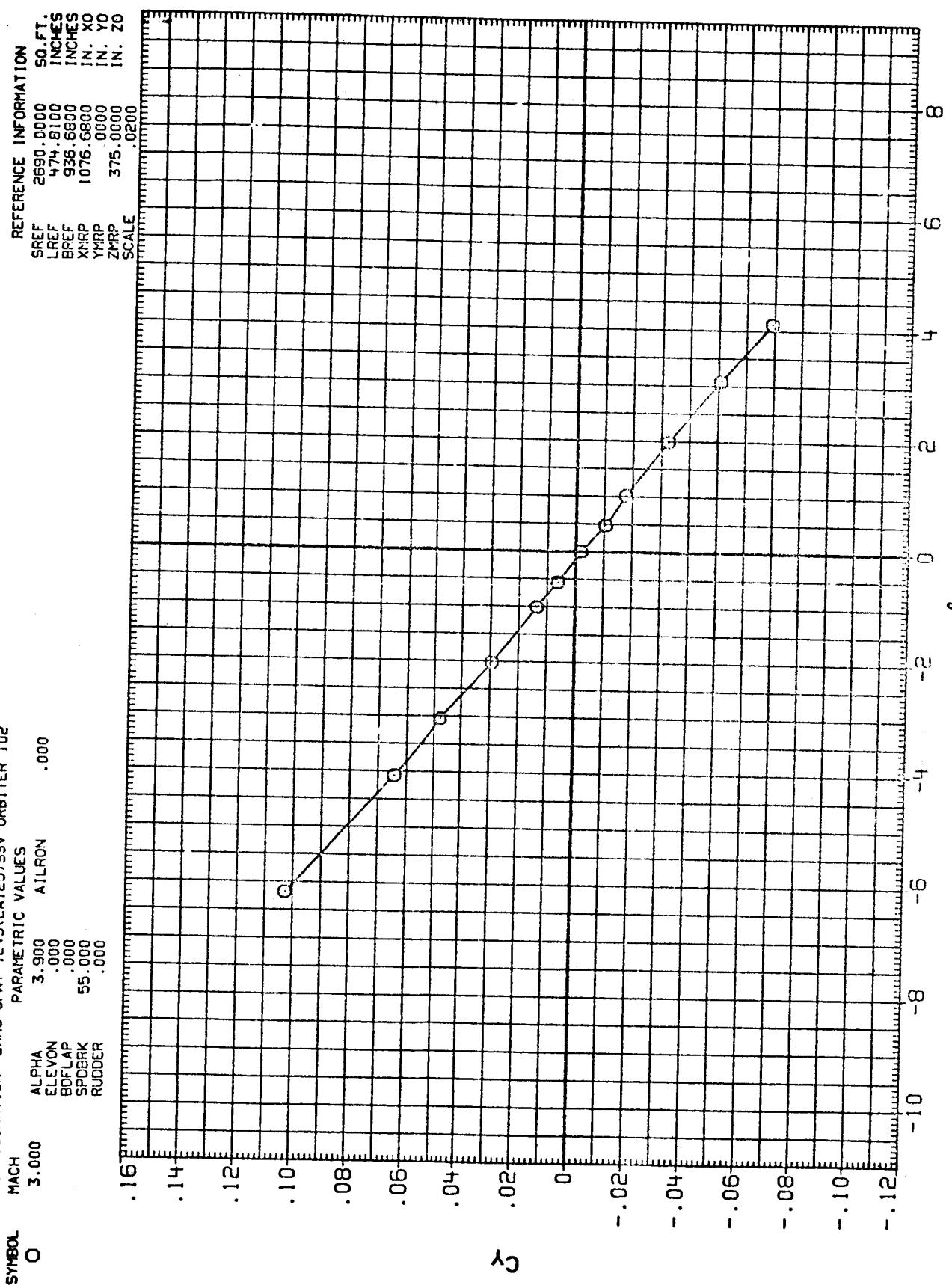


FIGURE 8(B). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 47

AKS011 CONFIGURATION LARC UPNT 1243(LA)25)SSV ORBITER 102
 SYMBOL MACH ALPH_A ELEVON AILRON
 O 3.000 .000 .000 .000
 EOLAP SPBLAP 55.000 55.000
 RUDER RUDER .000 .000

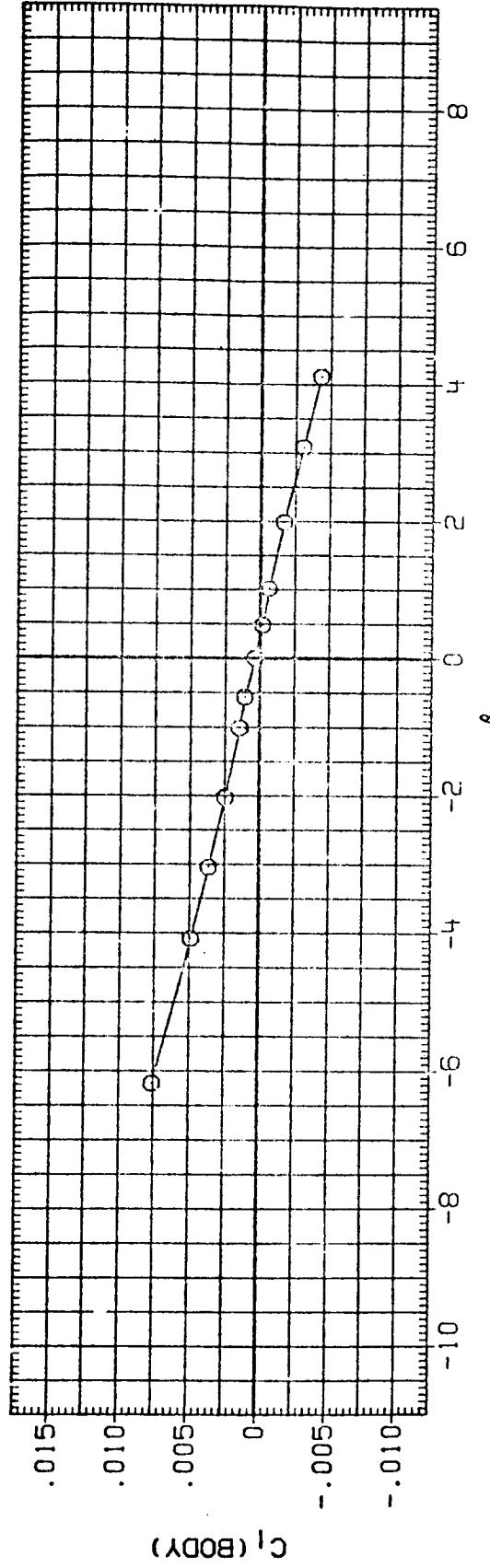
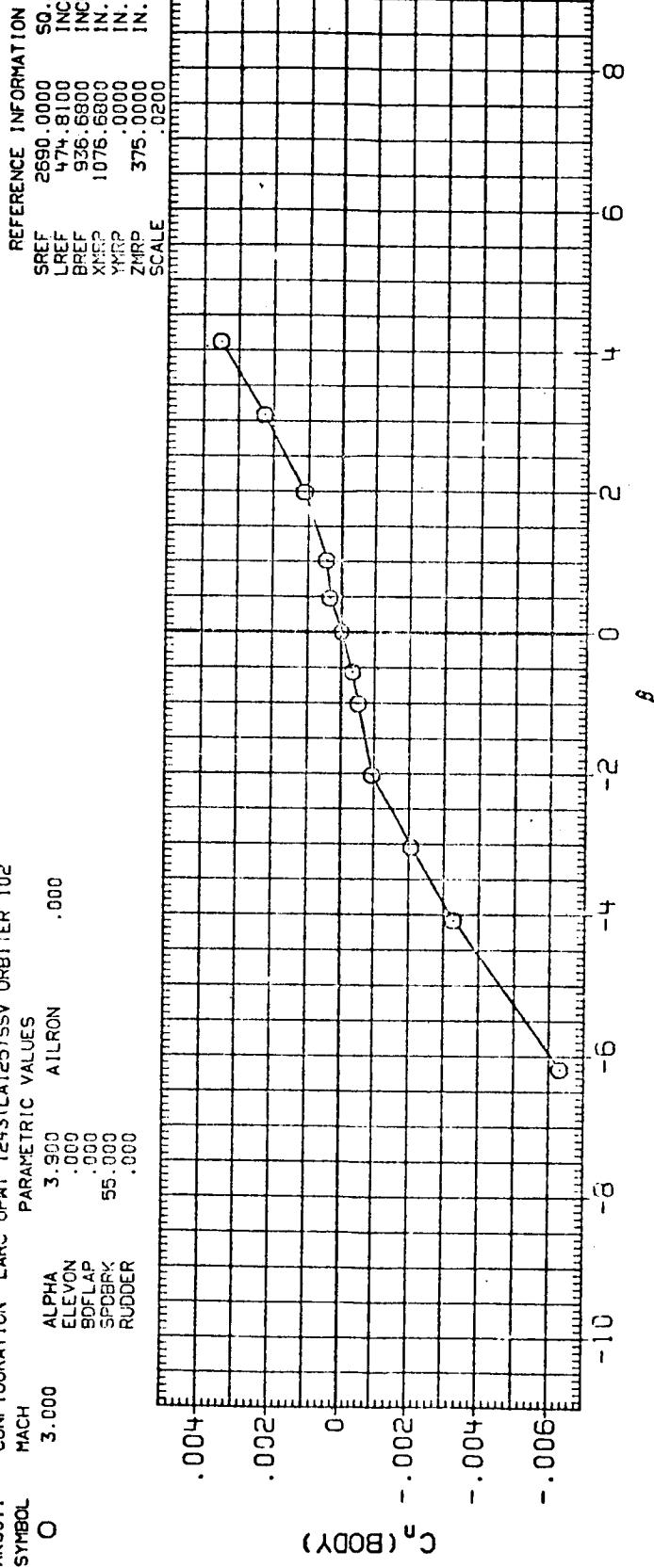


FIGURE 8(B). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 48

AKS012 LARC UPWT 1243(LA125)SSV ORBITER 102
 CONFIGURATION MACH UPWT 1243(LA125)SSV ORBITER 102
 MACH 3.500 ALPHA 4.000 AILRDN .000
 SYMBOL O ELEVON .000 BDFLAP .000
 PARAMETRIC VALUES SPDRK 55.000 RUDDER .000

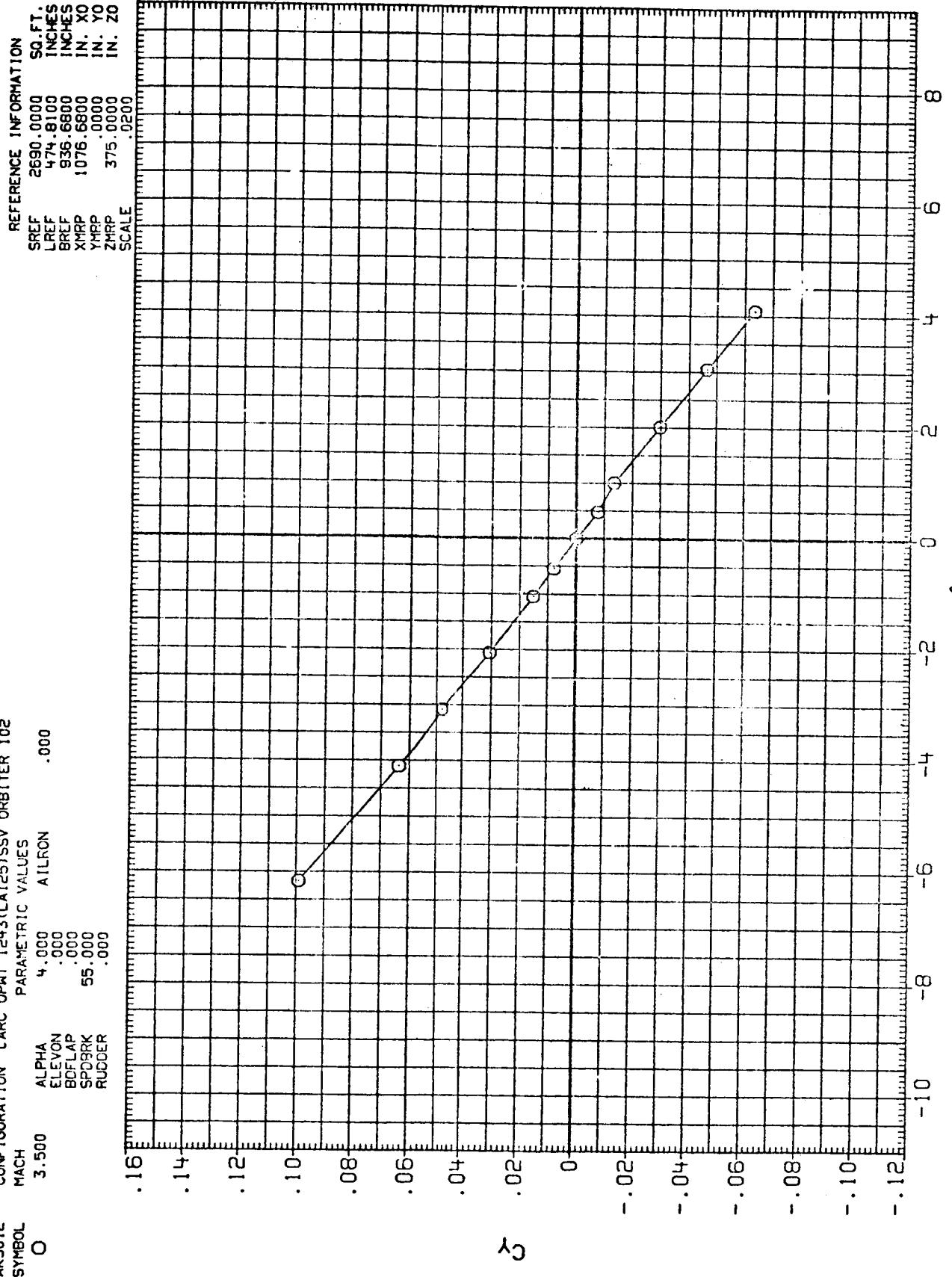


FIGURE 8(C). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 49

AK5012 CONFIGURATION LARC UPNT 1243(LA)25(SSV ORBITER 102
 SYMBOL MACH PARAMETRIC VALUES
 O 3.500 ALPHA 4.000 AILRON .000
 ELEVON .000
 BDFLAP .000
 SPDRK 55.000
 RUDDER .000

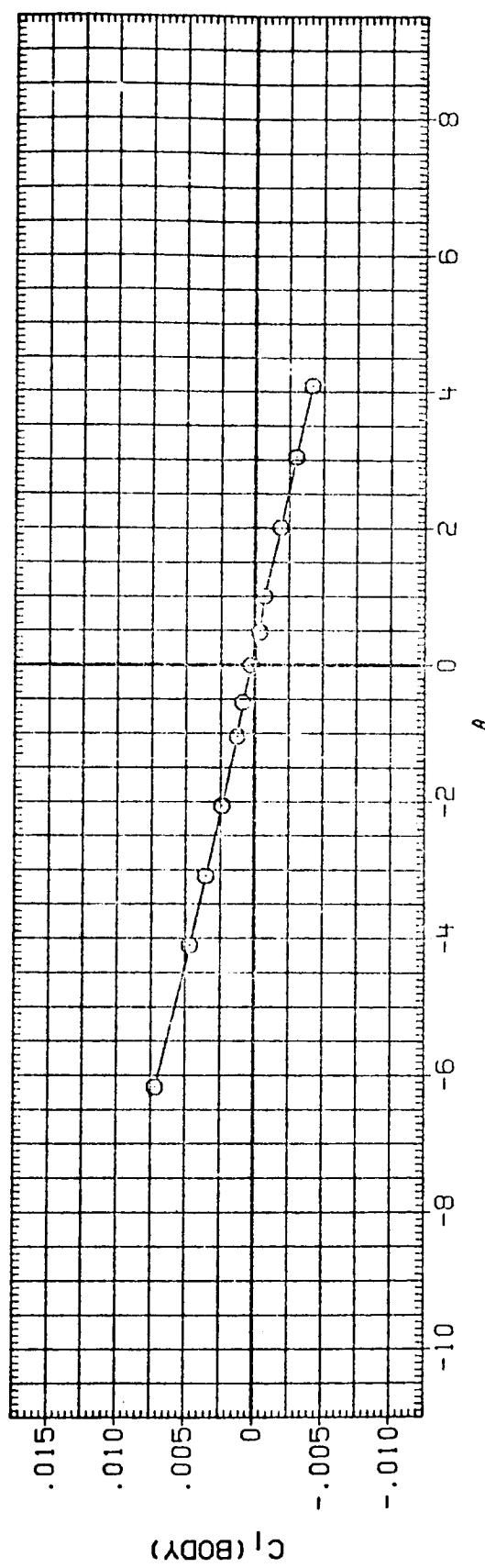
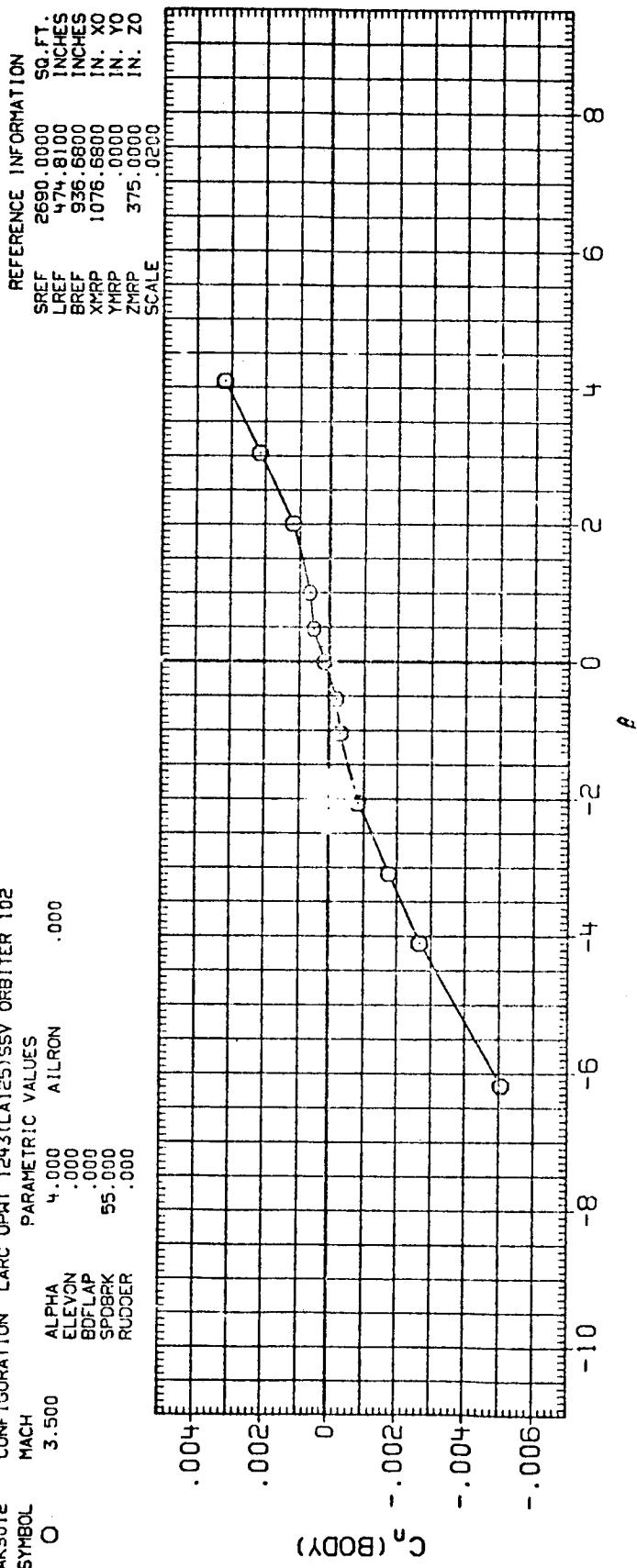


FIGURE 8(C). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 50

AKS013 CONFIGURATION LARC UPHT 1243(LA125)SSV ORBITER 102
 MACH SYMBOL PARAMETRIC VALUES
 4.000 O ALPHA 4.300 AILRDN .000
 ELEVON .000
 BDFLAP .000
 SPDBRK 55.000
 RUDDER .000

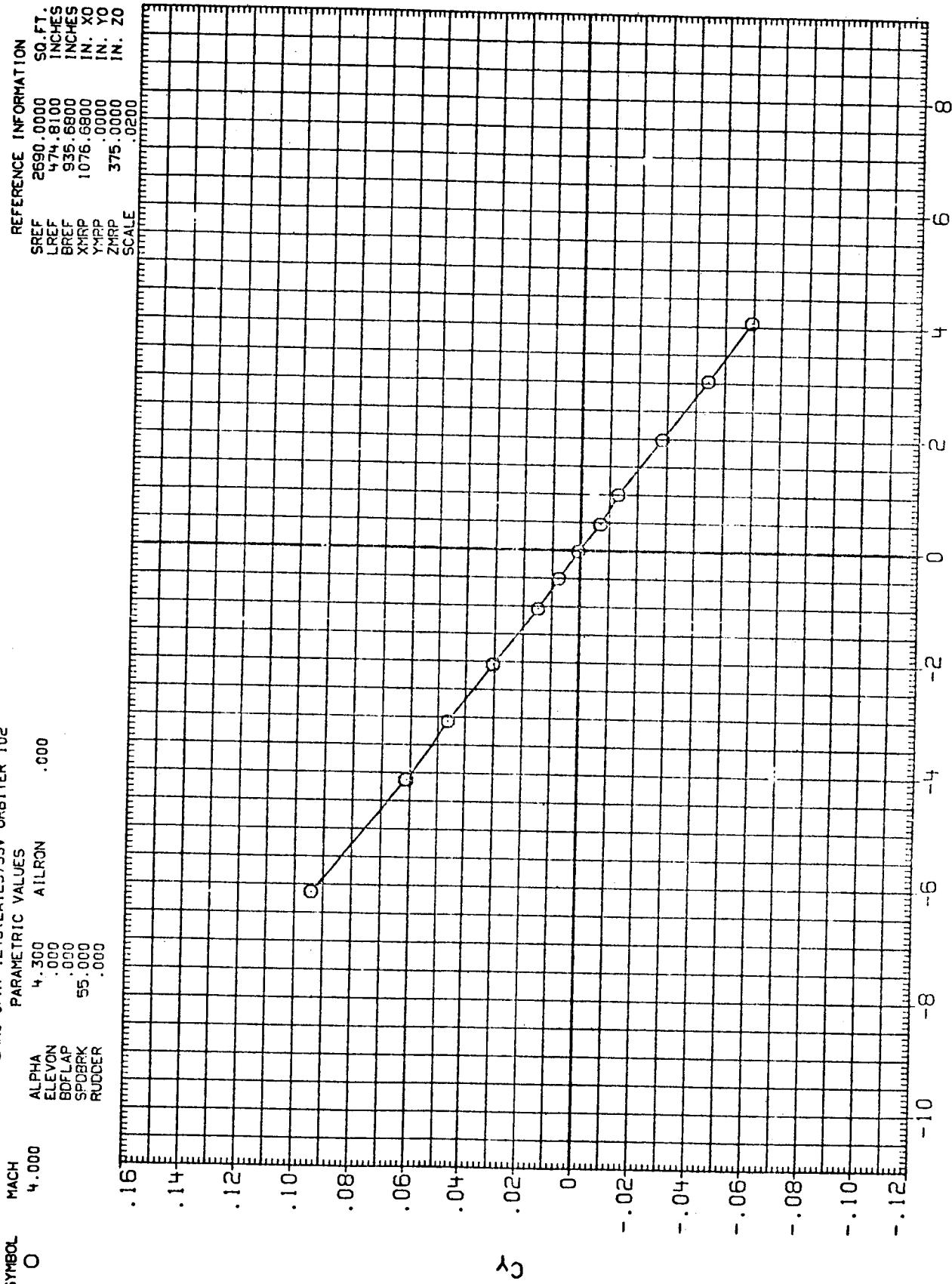


FIGURE 8(D). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 51

AKS013 CONFIGURATION LARC UPWT 1243(LA125)SSV ORBITER 102
 SYMBOL MACH ALPHA ELEVON AIRRON .000
 O 4.000 .300 .000 .000 .000 .000
 BDCLAP 55.000 SPDRK RUDER .000

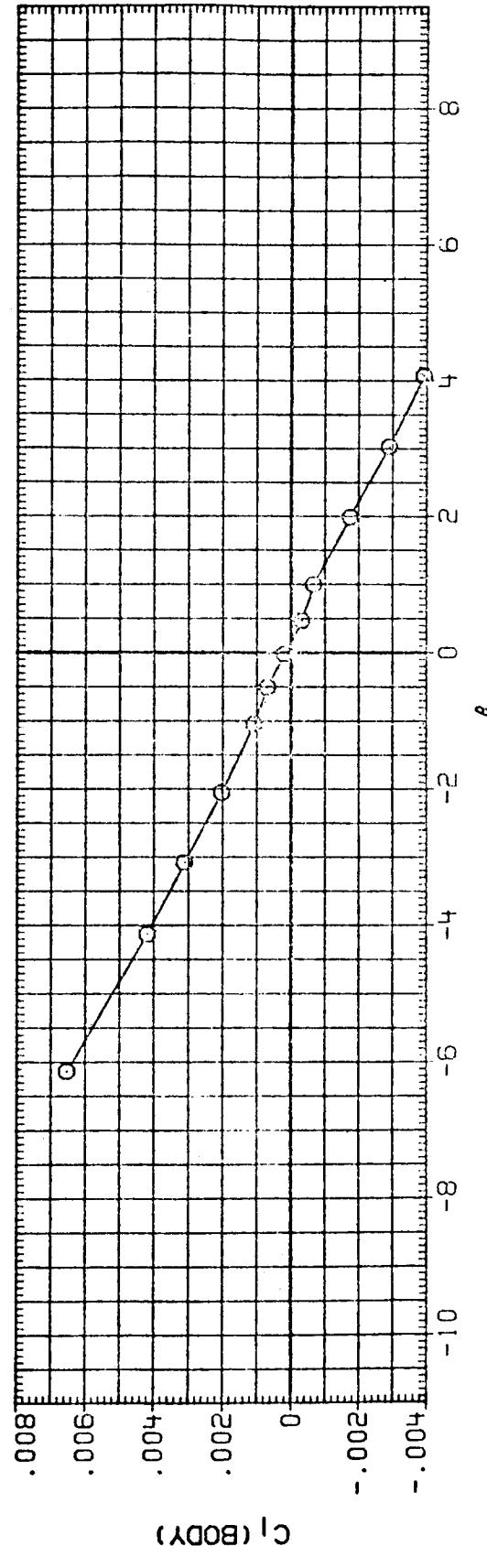
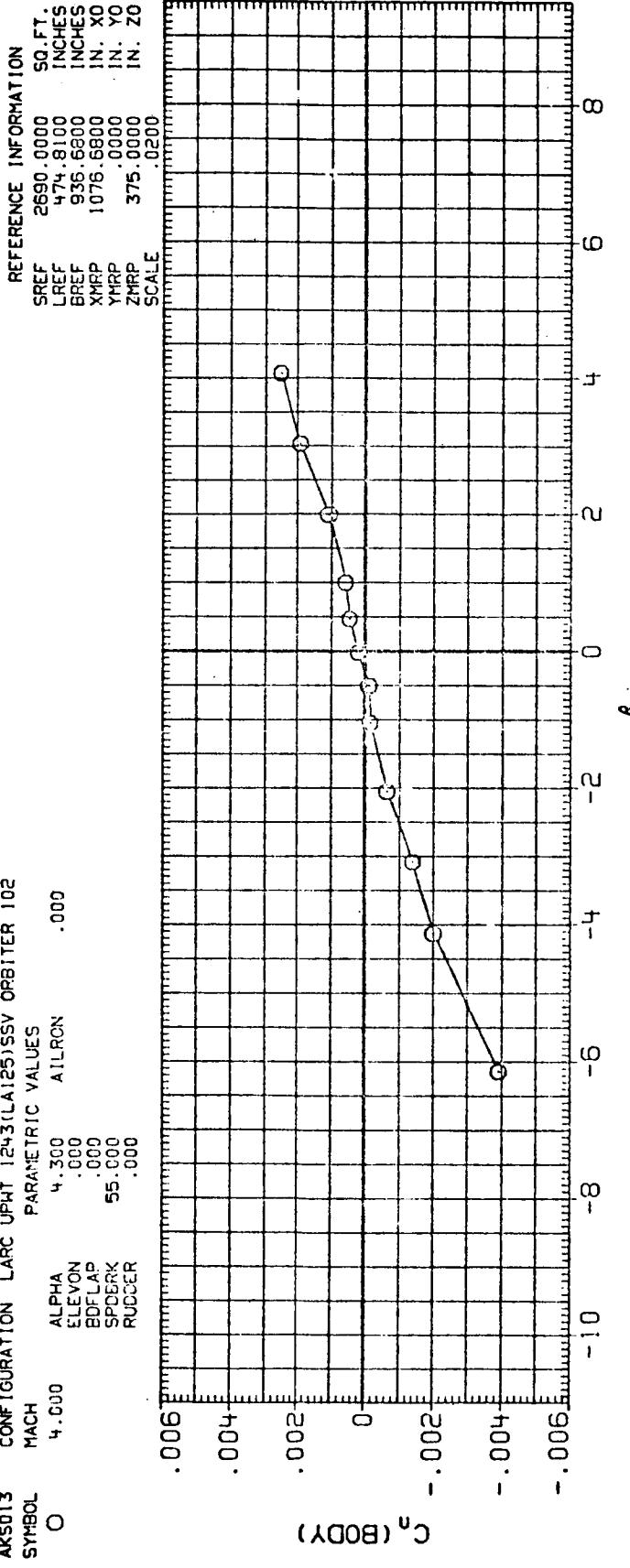


FIGURE 8(D). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.

AKSO14
 CONFIGURATION LARC UPAT 1243(LA125)SSV ORBITER 102
 MACH 4.500
 ALPHA 4.500 AILRDN .000
 ELEVON .000
 BDFLAP .000
 SPDGRK 55.000
 RUDDER .000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	.474	.8100
BREF	.936	.6800
XMRP	1076.6800	INCHES
YMRP	.0000	IN. X0
ZMRP	375.0000	IN. Y0
SCALE	.0200	IN. Z0

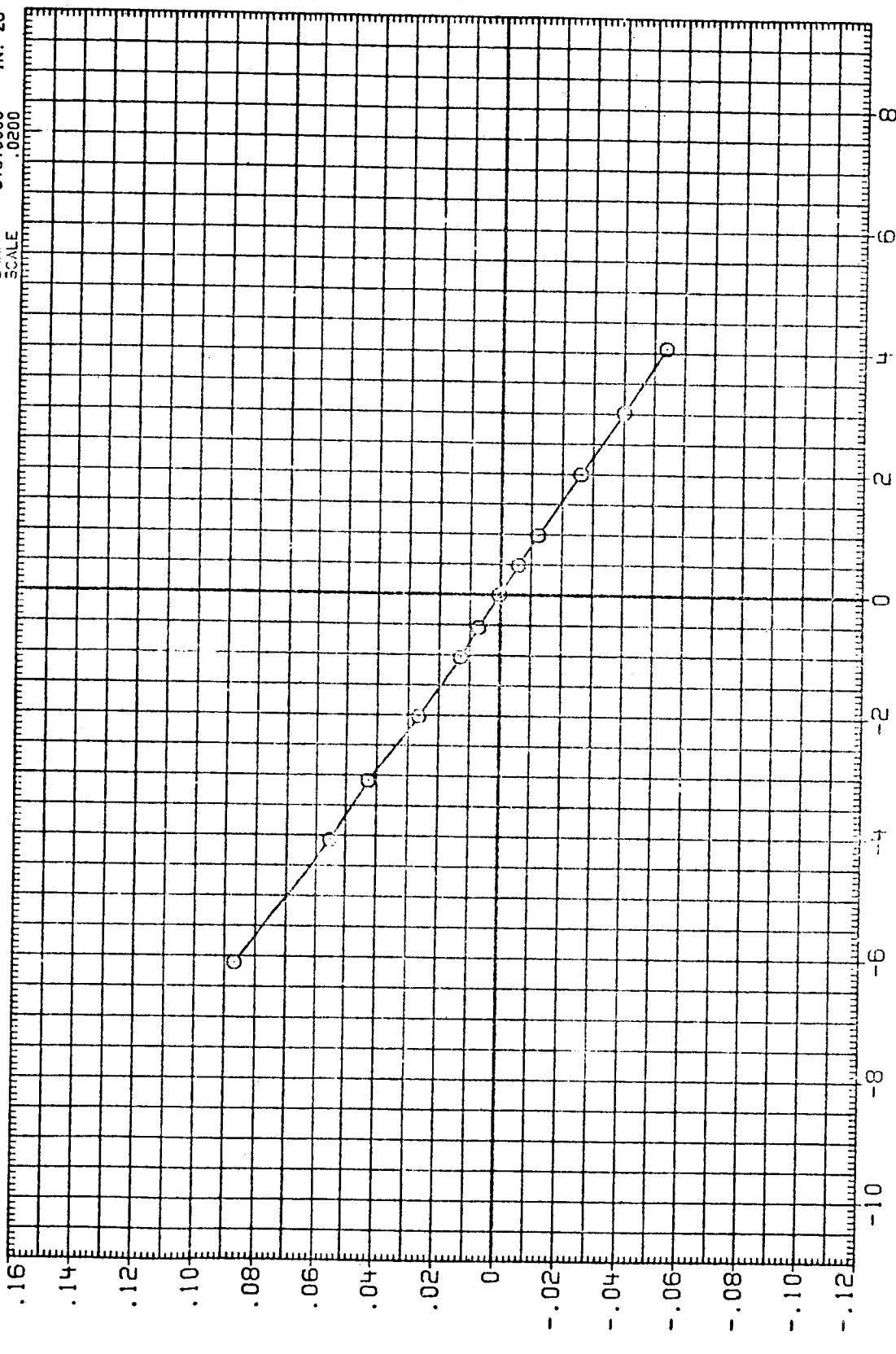


FIGURE 8(E). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.

AKS014 CONFIGURATION LARC UPT 1243(LA125)SSV ORBITER 102
 SYMBOL MACH PARAMETRIC VALUES
 O 4.500 ALPHA .500 AIRON .000
 ELEVON .000 BDFLAP .000 SPDGRK 55.000 RUDDER .000

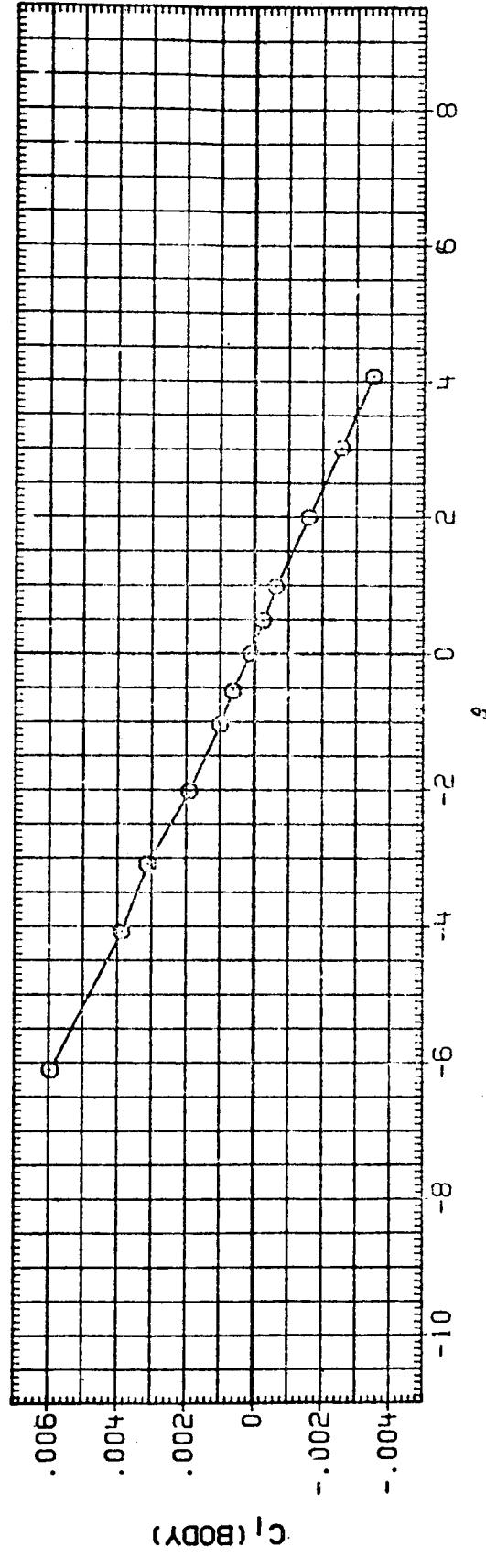
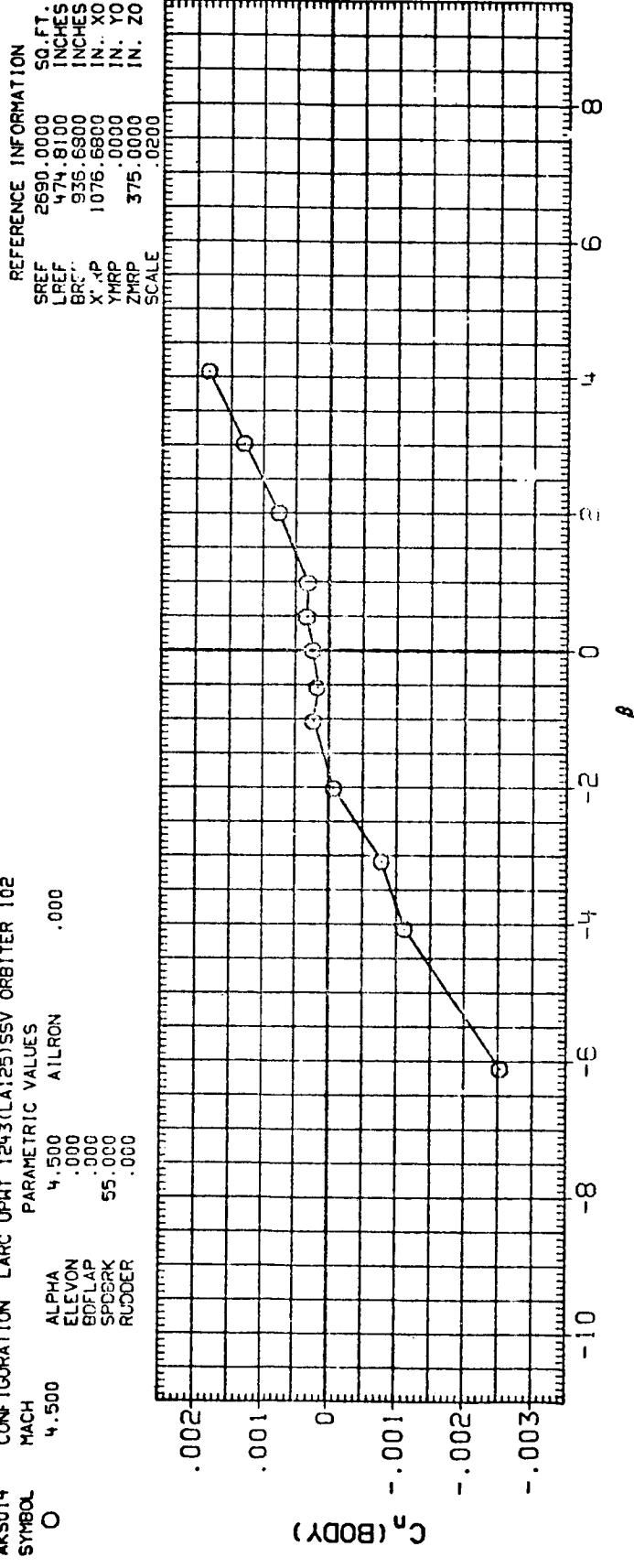


FIGURE 8(E). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 54

AKS015 CONFIGURATION LARC UPWT 1243(LA125)SSV ORBITER 102
 SYMBOL MACH 2.500 PARAMETRIC VALUES
 O ALPHA 6.700 ALRDN .000
 ELEVON .000 BDFLAP .000
 SPDBRK 55.000 RUDDER .000

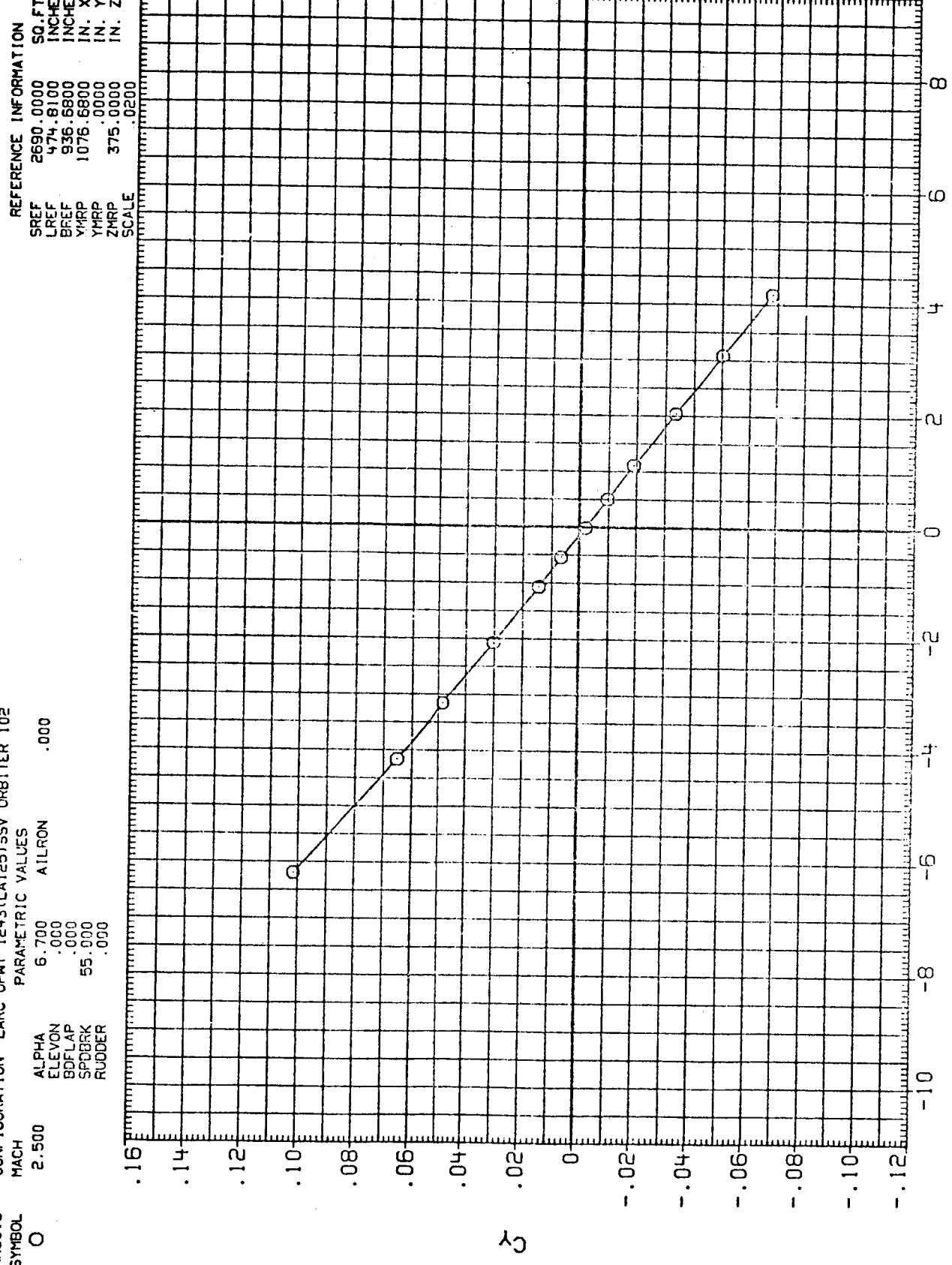


FIGURE 8(F). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 55

AK505 CONFIGURATION LARC UPT 124-3(LA125)SSV ORBITER 102
 MACH 2.500 ALPHA 6.700 AILRON .000
 ELEVON .000 BDFLAP .000 SPDBRK 55.000 RUDDER .000

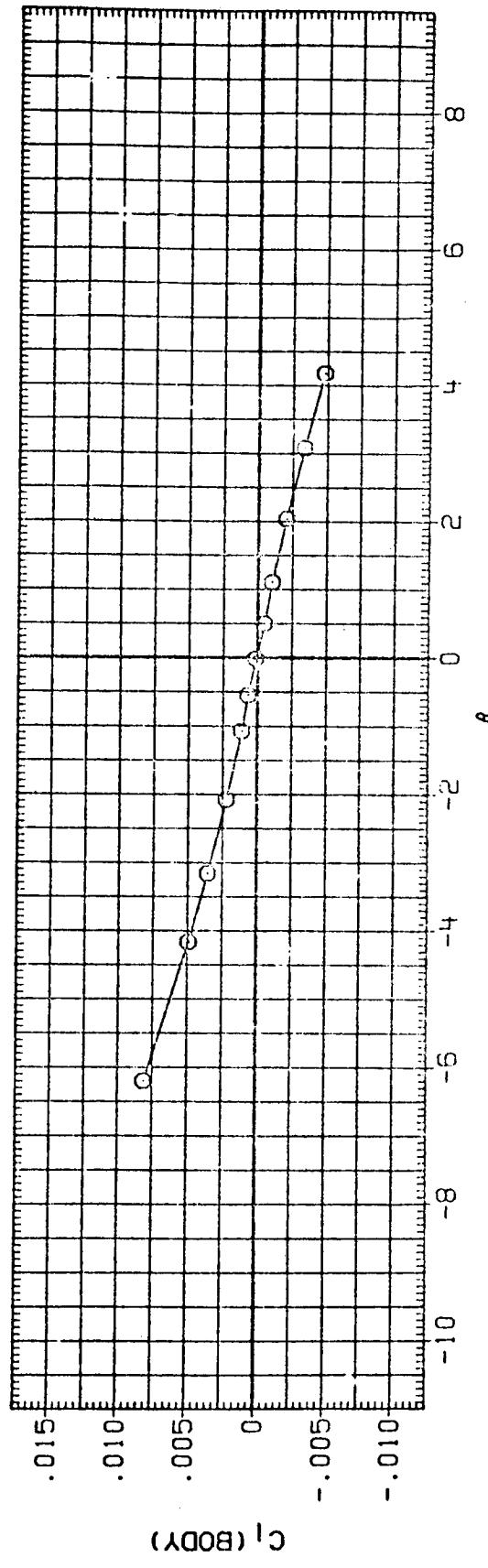
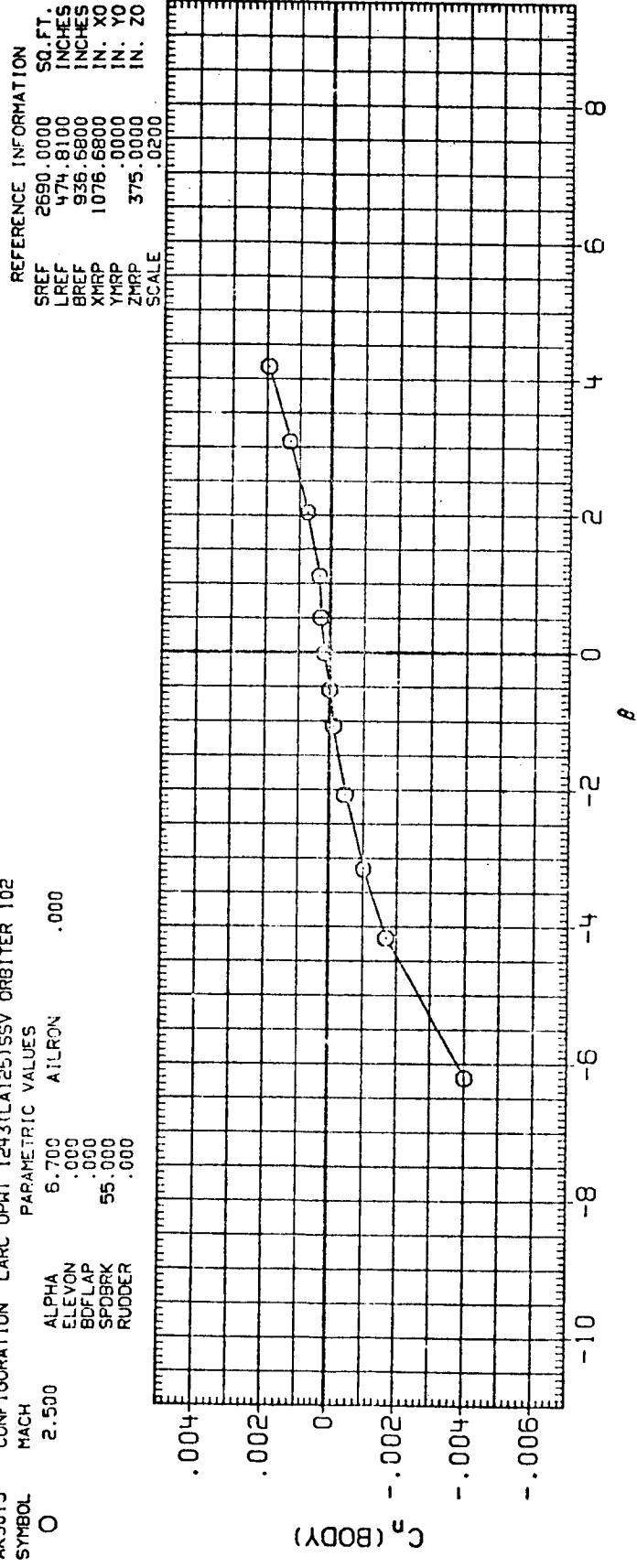


FIGURE 8(F). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 56

AKS016 CONFIGURATION LARC UPNT 1243(LA125)SSV ORBITER 102
 SYMBOL MACH PARAMETRIC VALUES
 O 3.000 ALPHA 7.400 AILRCN .000
 ELEVON .000
 EDFLAP .000
 SPCBRK 55.000
 RUDDER .000

REFERENCE INFORMATION
 SREF 2690.0000 SQ. FT.
 LRF 474.8100 INCHES
 BRF 936.6800 INCHES
 XMRP 1076.6800 IN. X0
 YMRP 375.0000 IN. Y0
 ZMRP .0000 IN. Z0
 SCALE .0200

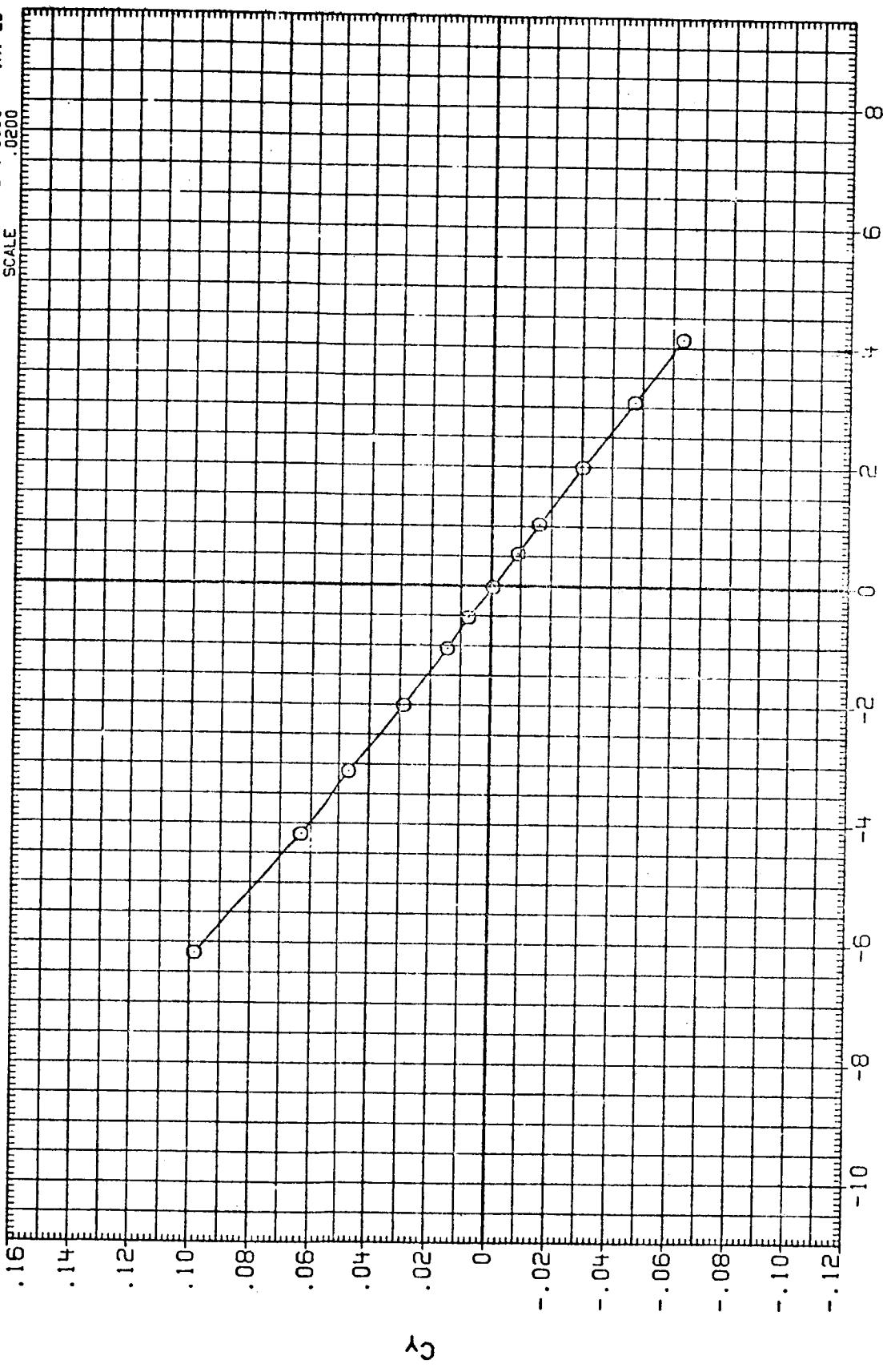


FIGURE 8(G). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.

AKS016 CONFIGURATION LARC UPHT 1243(LA125)SSV ORBITER 102

PARAMETER	TR.C VALUES
MACH	3.000
ALPHA	7.400
ELEVON	.000
BDFLAP	.000
SFOIL	55.000
RUDDER	.000

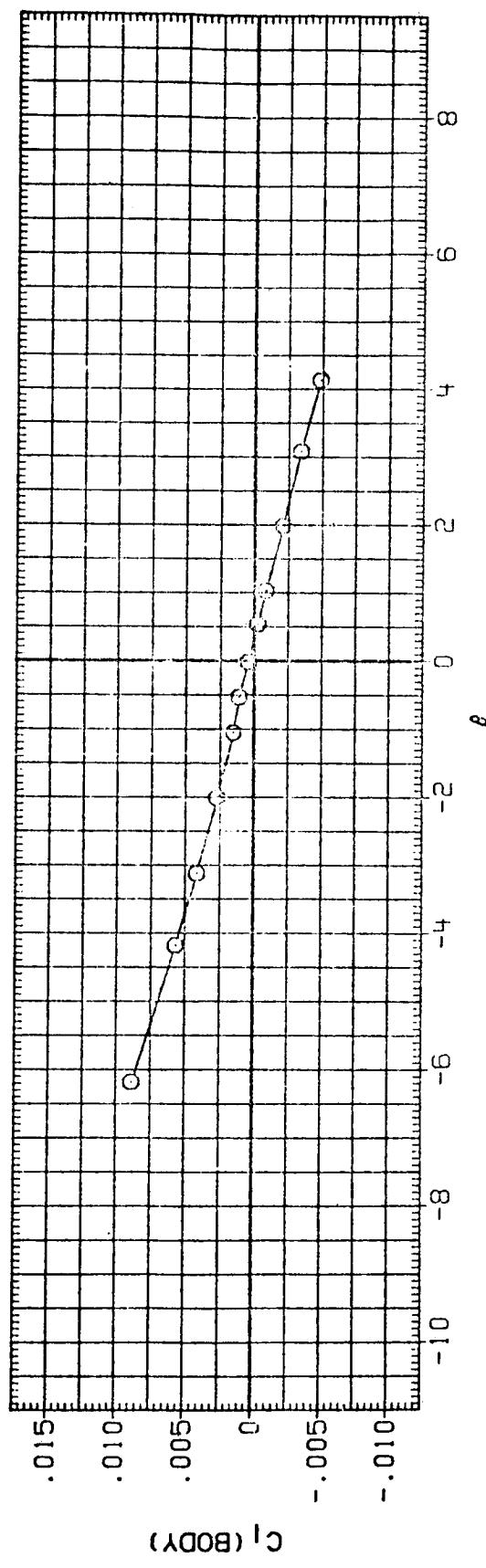
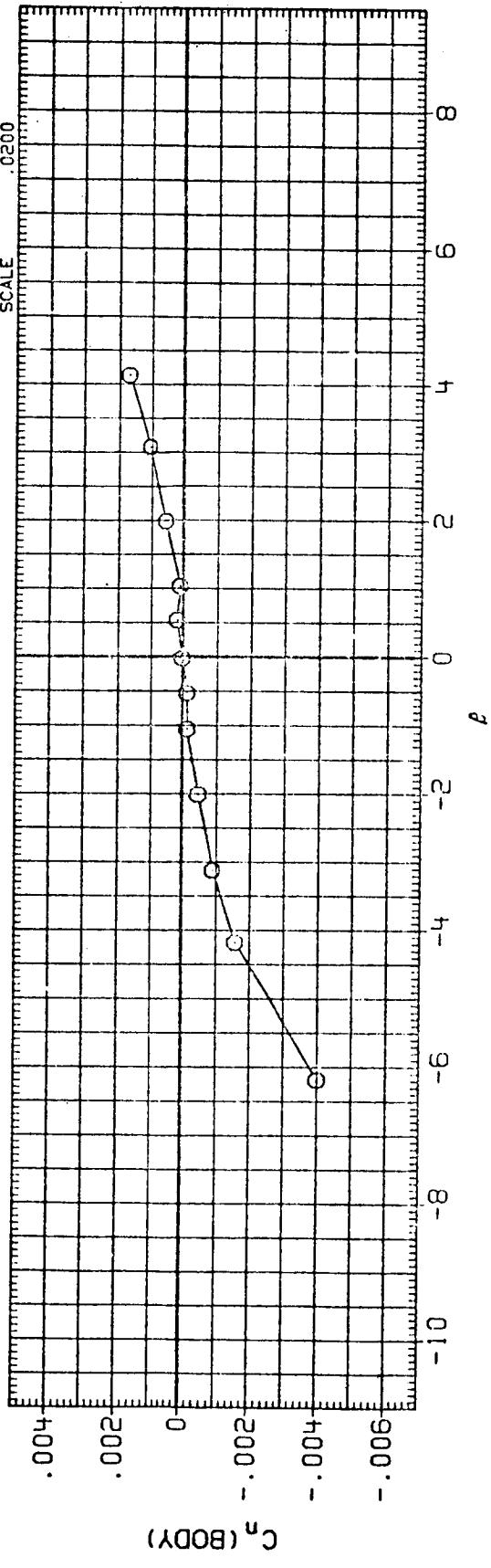


FIGURE 8(G). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE

AKS017 CONFIGURATION LARC UPWT 1243(LA125)SSV ORBITER 102
 MACH 3.500 ALPHAV 7.700 ALRDN .000
 SYMBOL O ELEVON .000 AILRON .000
 BDFLAP .000 SPDBRK 55.000 RUDDER .000

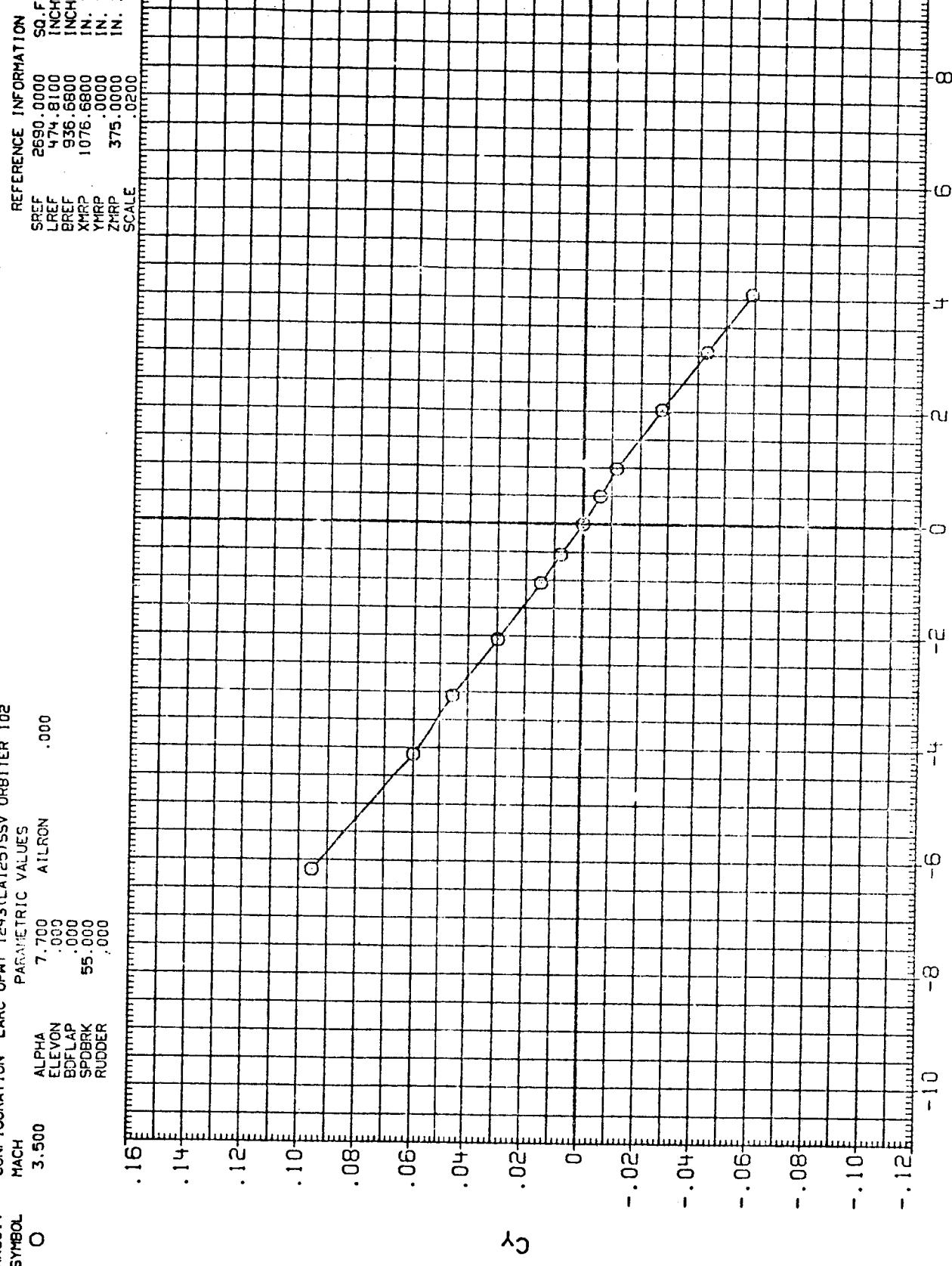


FIGURE 8(H). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 59

AK5017 CONFIGURATION LARC UPWT 1243(LA125)SSV ORBITER 102
 MACH PARAMETRIC VALUES
 O ALPHA 7.700 AILRDN .000
 ELEVON .000
 BDFLAP .000
 SPDBRK 55.000
 RUDDER .000

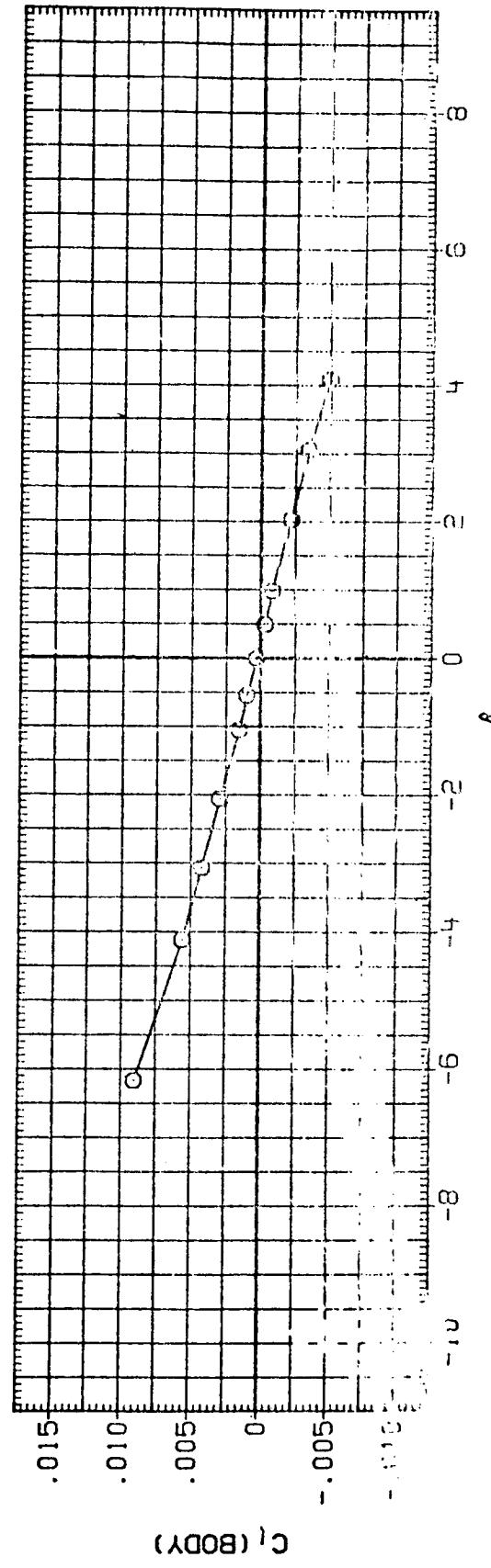
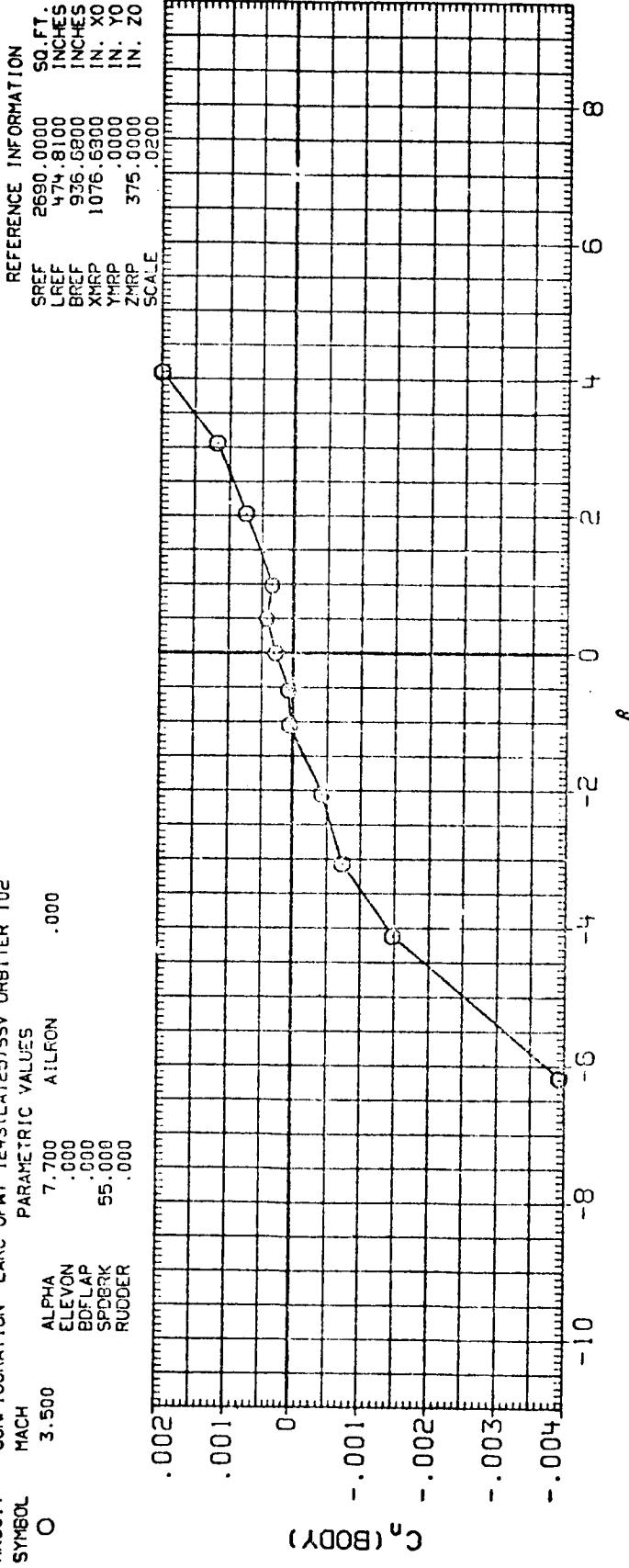


FIGURE 8(H). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 60

AKS018 CONFIGURATION LARC UPHT 1243(LA125)SSV ORBITER '72
 SYMBOL O MACH 4.000 ALPHA 8.100 AILRON .000
 ELEVON .000 BDFLAP .000
 SPDZRK 55.000 RUDDER .000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 474.8100 INCHES
 BREF 936.6800 INCHES
 XMRP 1076.6800 IN. X0
 YMRP .375.0000 IN. Y0
 ZMRP .0200 IN. Z0
 SCALE .0200

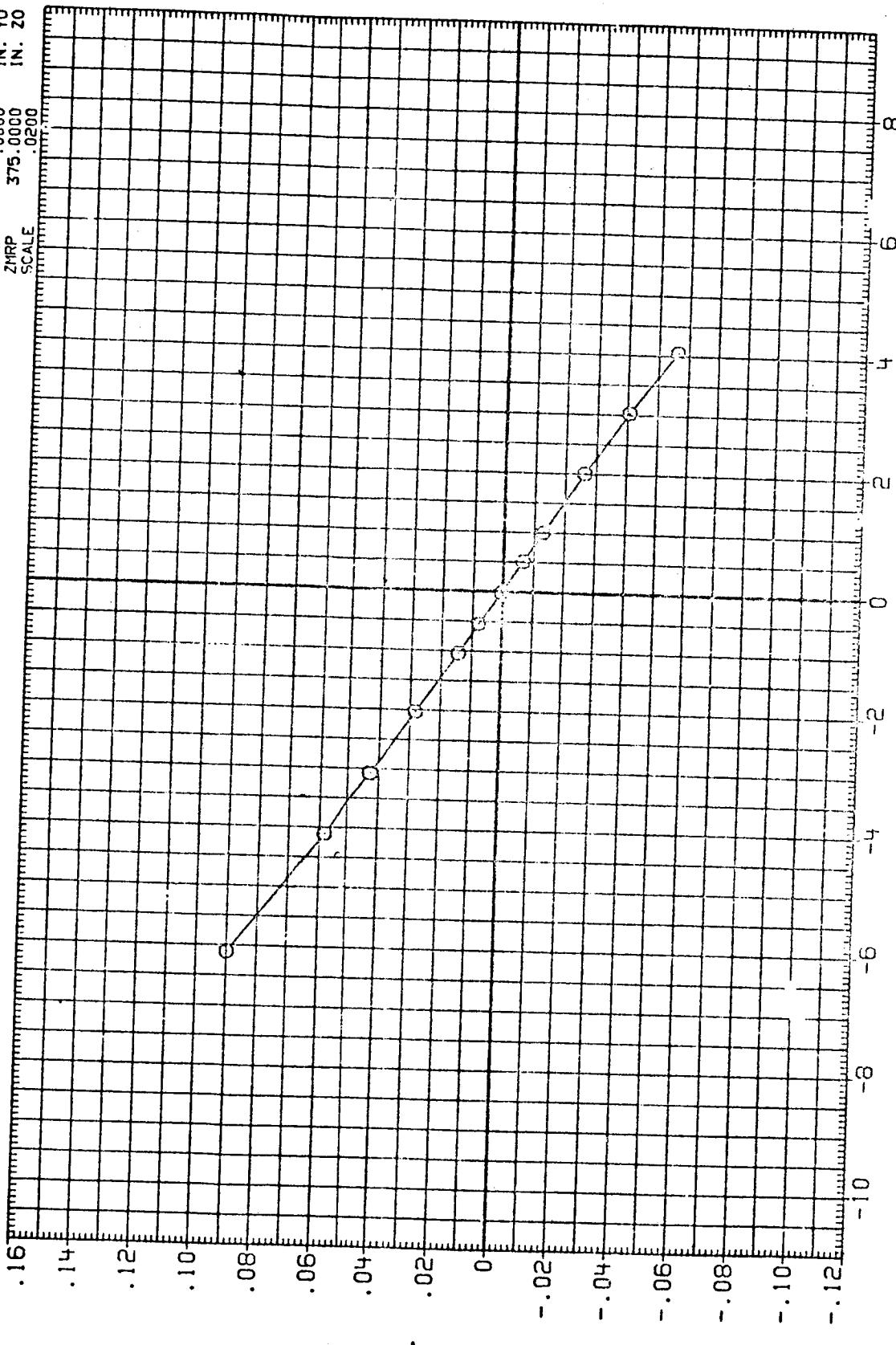


FIGURE 8(1). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 61

AKS018 CONFIGURATION LARC UPWT 12M3(LA125)SSV ORBITER 102
 SYMBOL MACH PARAMETRIC VALUES
 O 4.000 ALPHA 8.100 ALTRON .000
 ELEVON .0000 BDFLAP .0000
 SPDWRK 55.000 RUDER .0000

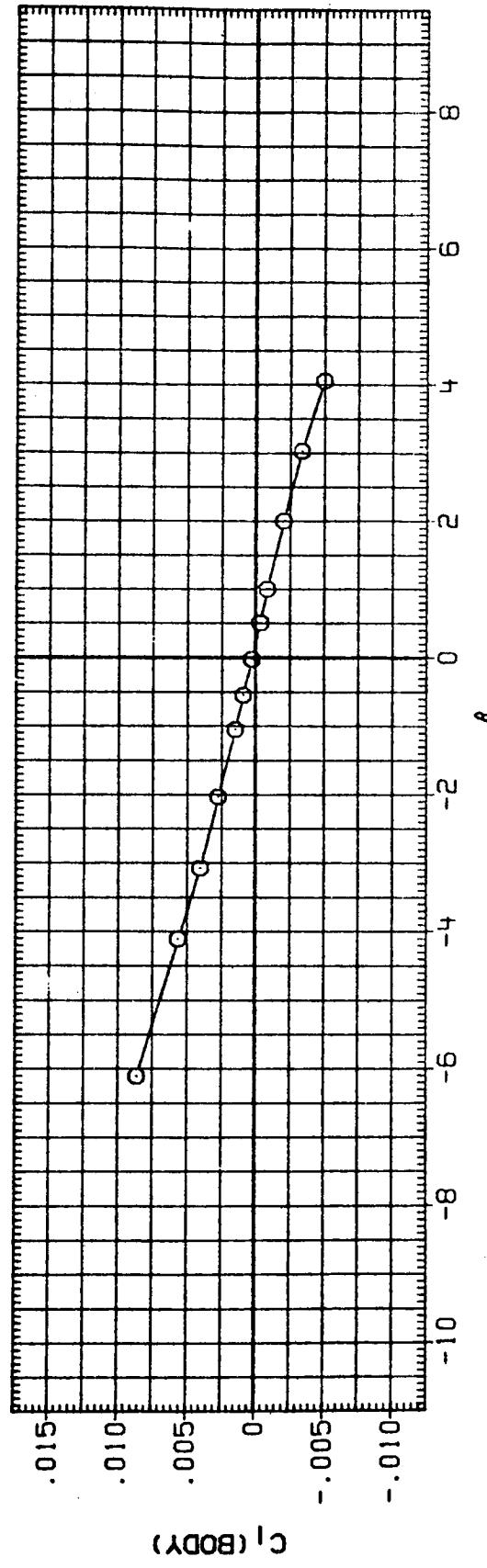
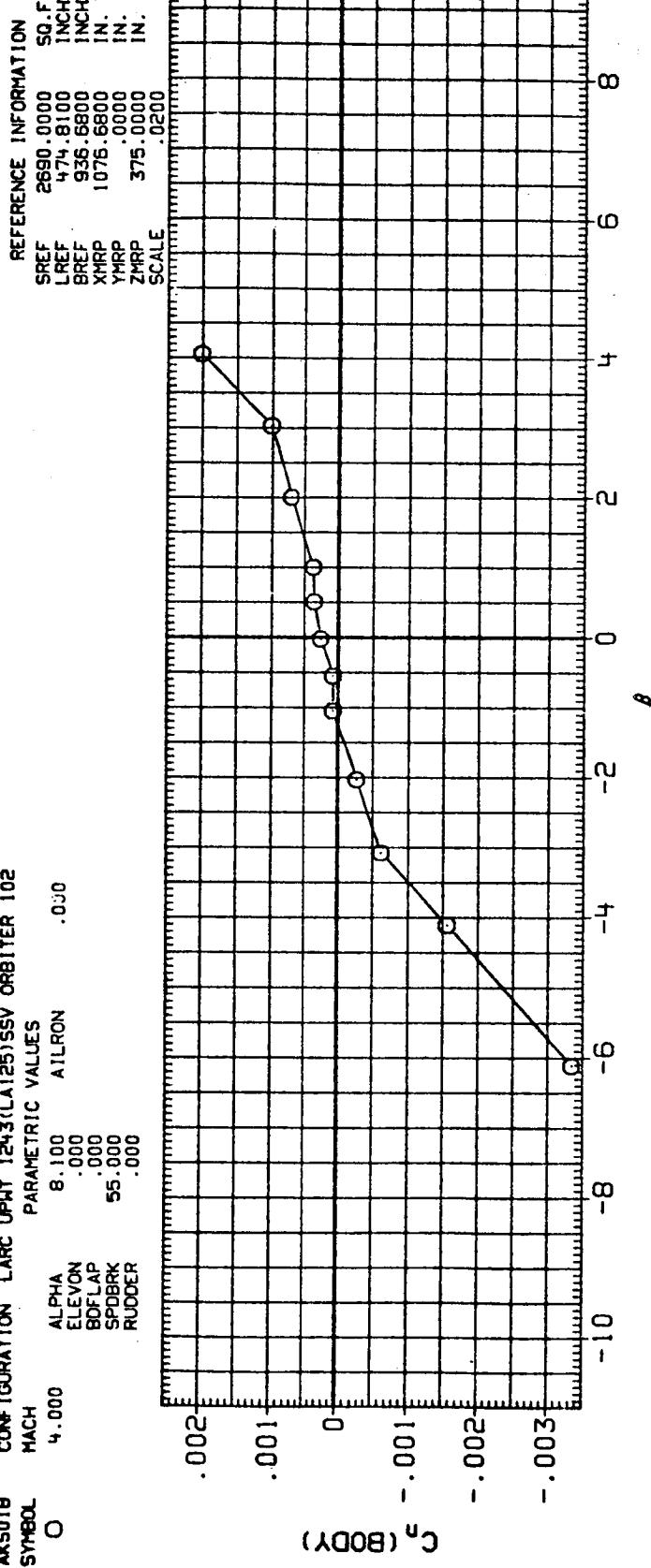


FIGURE 8(1). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 62

AKS018 CONFIGURATION LARC UPNT 1243(LA125)SSV ORBITER 102
 SYMBOL MACH ALPHA PARAMETRIC VALUES
 O 4.500 .8.500 AIRDN
 ELEVON .000
 BOFLAP .000
 SPDBRK 55.000
 RUDDER .000

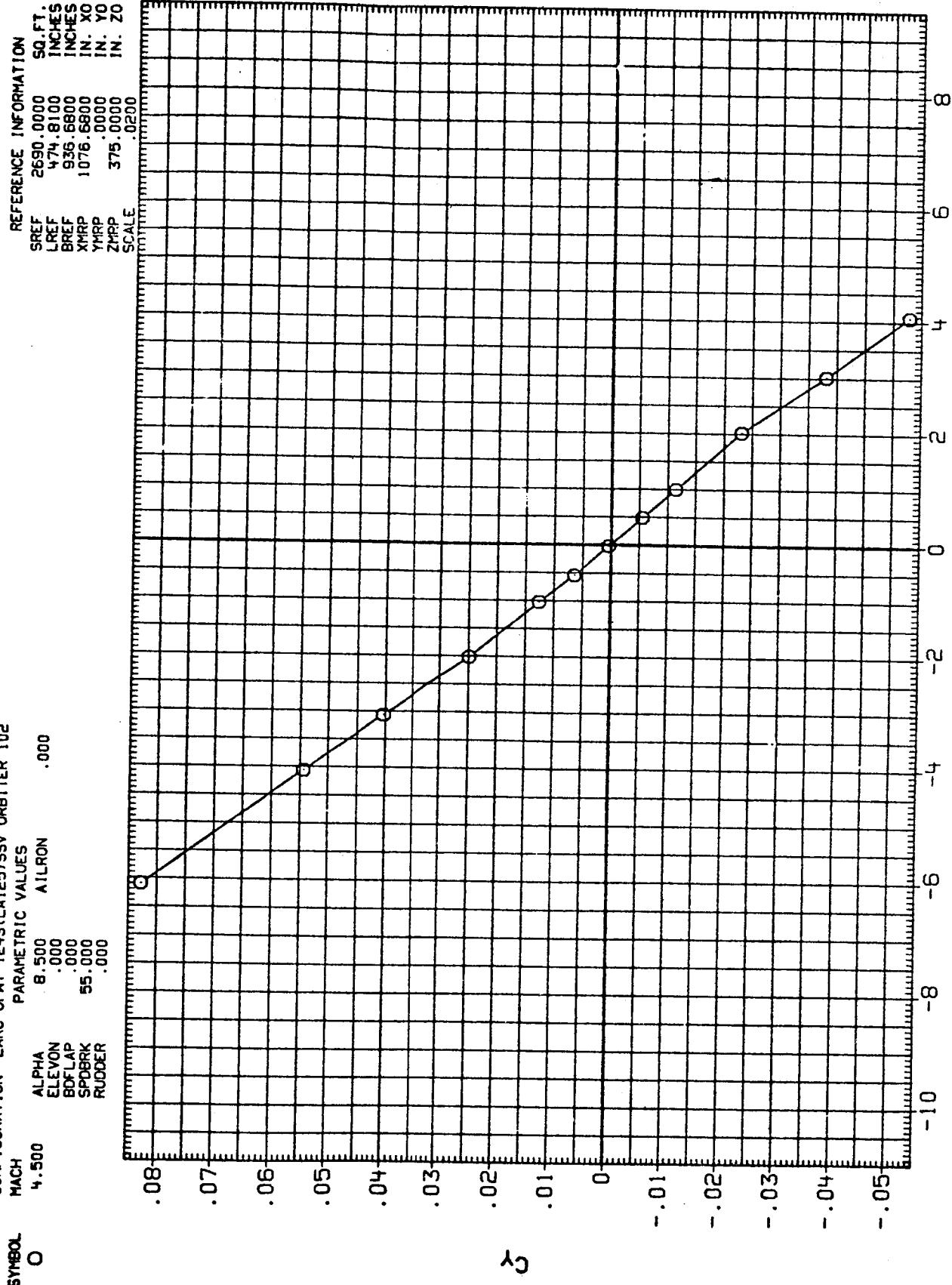


FIGURE 8(J). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 63

AKS019 CONFIGURATION LARC UPN1 1243(LA125)SSV ORBITER 102
 MACH PARAMETRIC VALUES
 O ALPHA 8.500 AILRDN .000
 ELEVON .000
 BDFLAP .000
 SPDBRK 55.000
 RUDDER .000

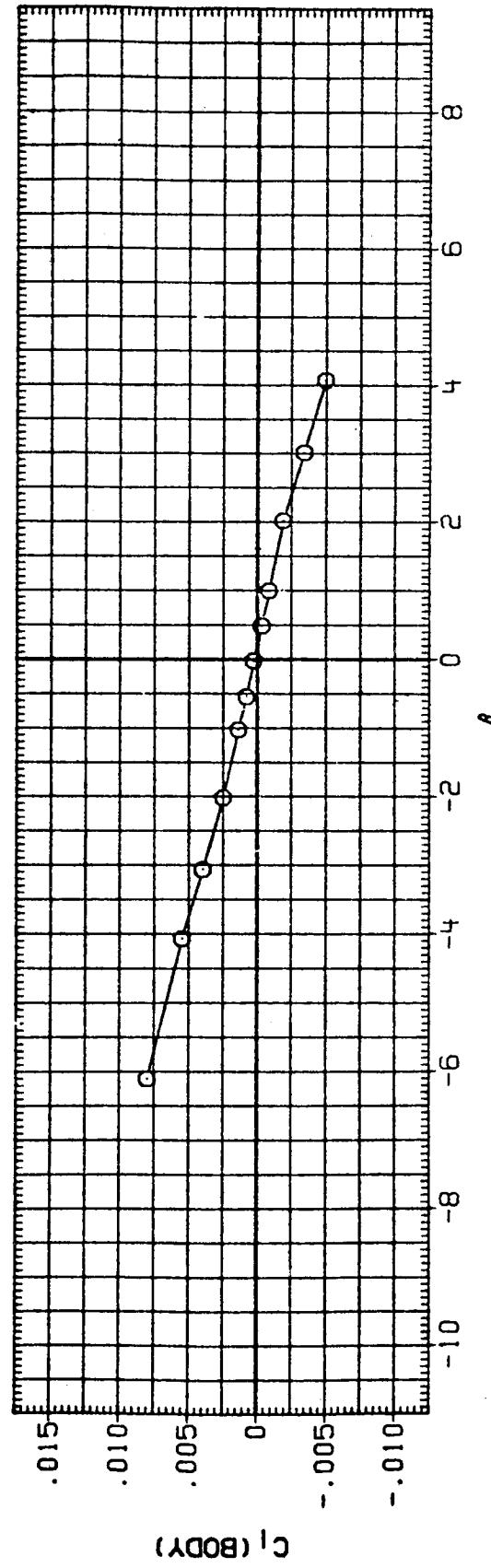
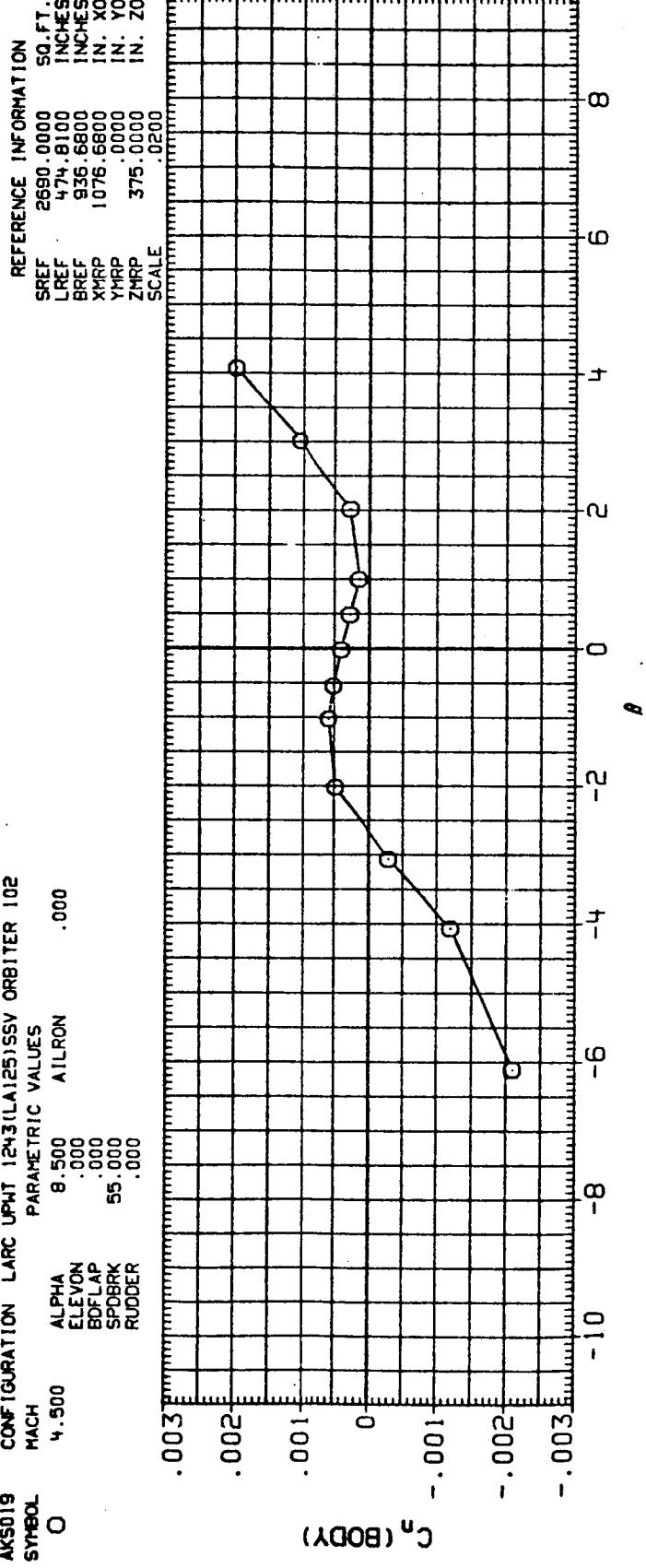


FIGURE 8(J). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 64

AKS020
 CONFIGURATION LARC UPWT 1243(LA125)SSV ORBITER 102
 MACH
 SYMBOL
 2.500 O
 ALPHA 9.800 AILRDN .000
 ELEVON .000
 BDFLAP .000
 SPDBRK 55.000
 RUDDER .000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 474.8100 INCHES
 BREF 936.6800 INCHES
 XMRP 1076.6800 IN. X0
 YMRP .0000 IN. Y0
 ZMRP 375.0000 IN. Z0
 SCALE .0200

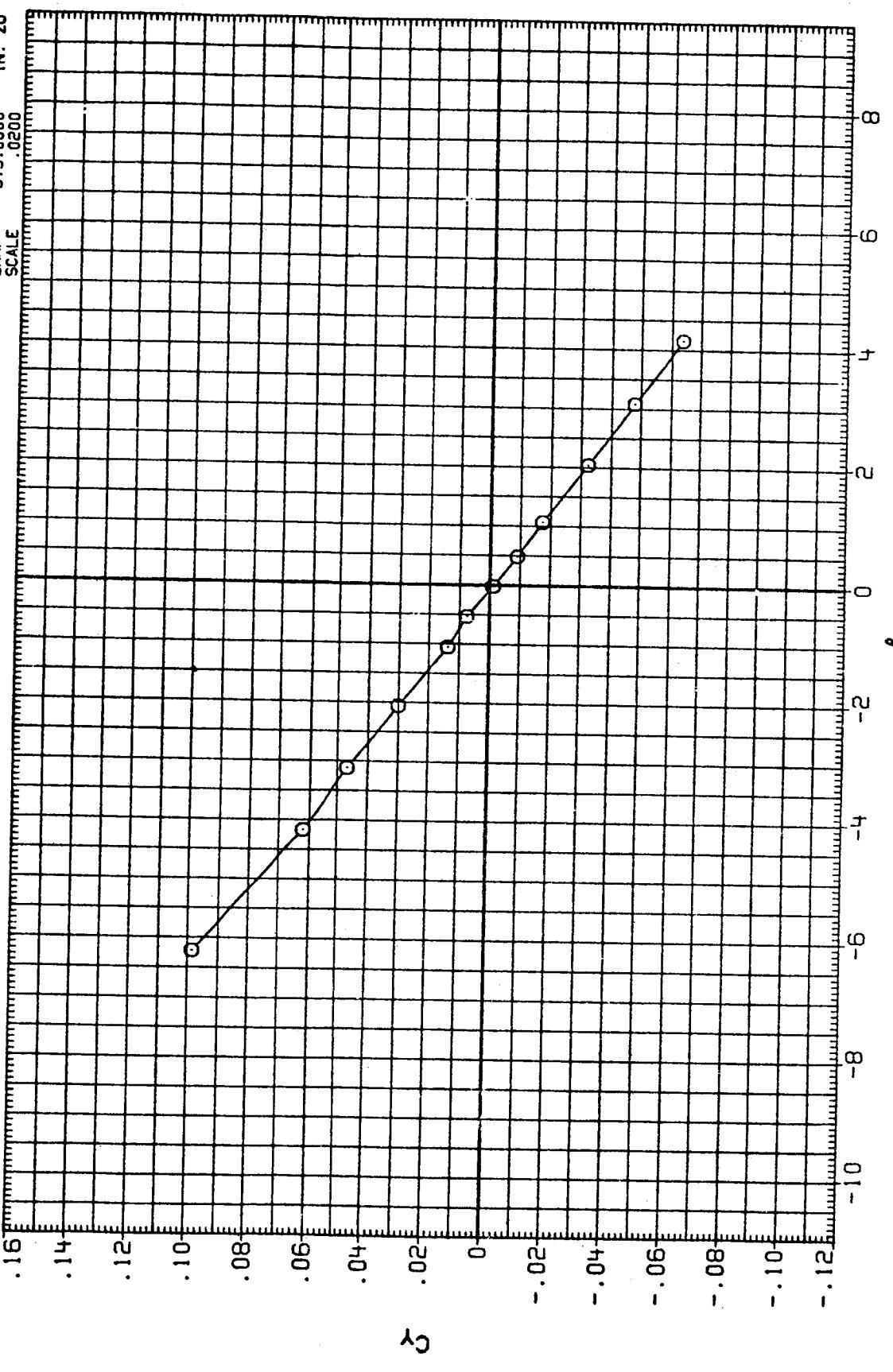


FIGURE 8(K). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.

AK5020 CONFIGURATION LARC UPNT 1243(LA125)SS ORBITER 102
 SYMBOL MACH ALPHA ELEVON AILRDN .000
 O 2.500 .000 .000 .000 .000
 BDFLAP SPDBRK RUDER .000 .000 .000

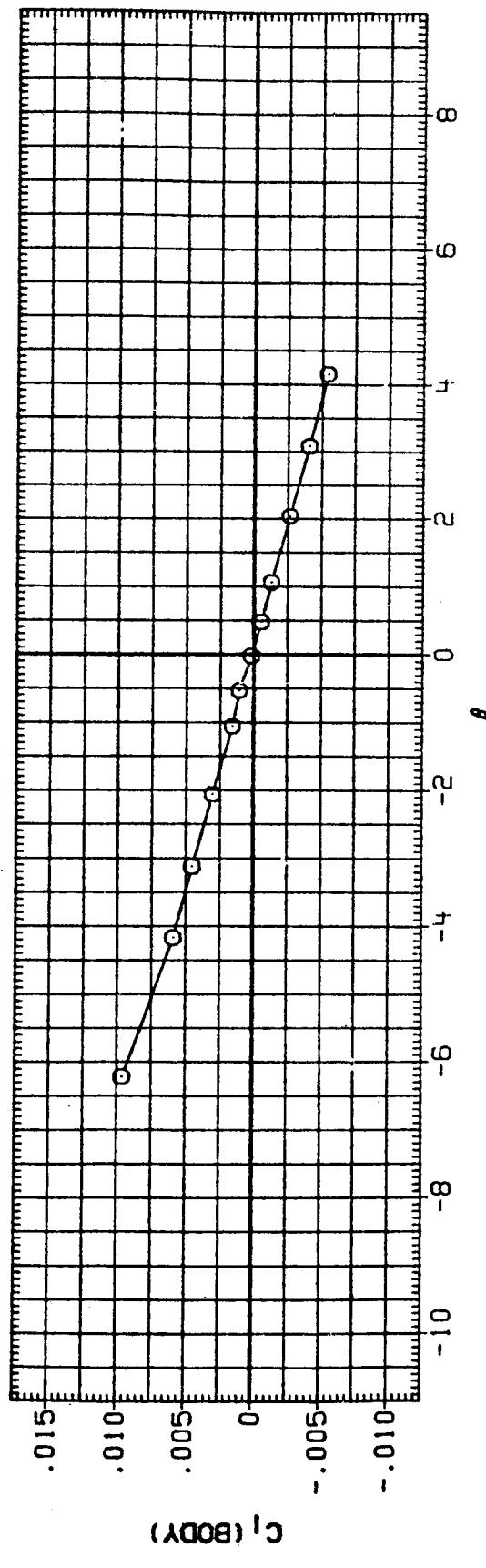
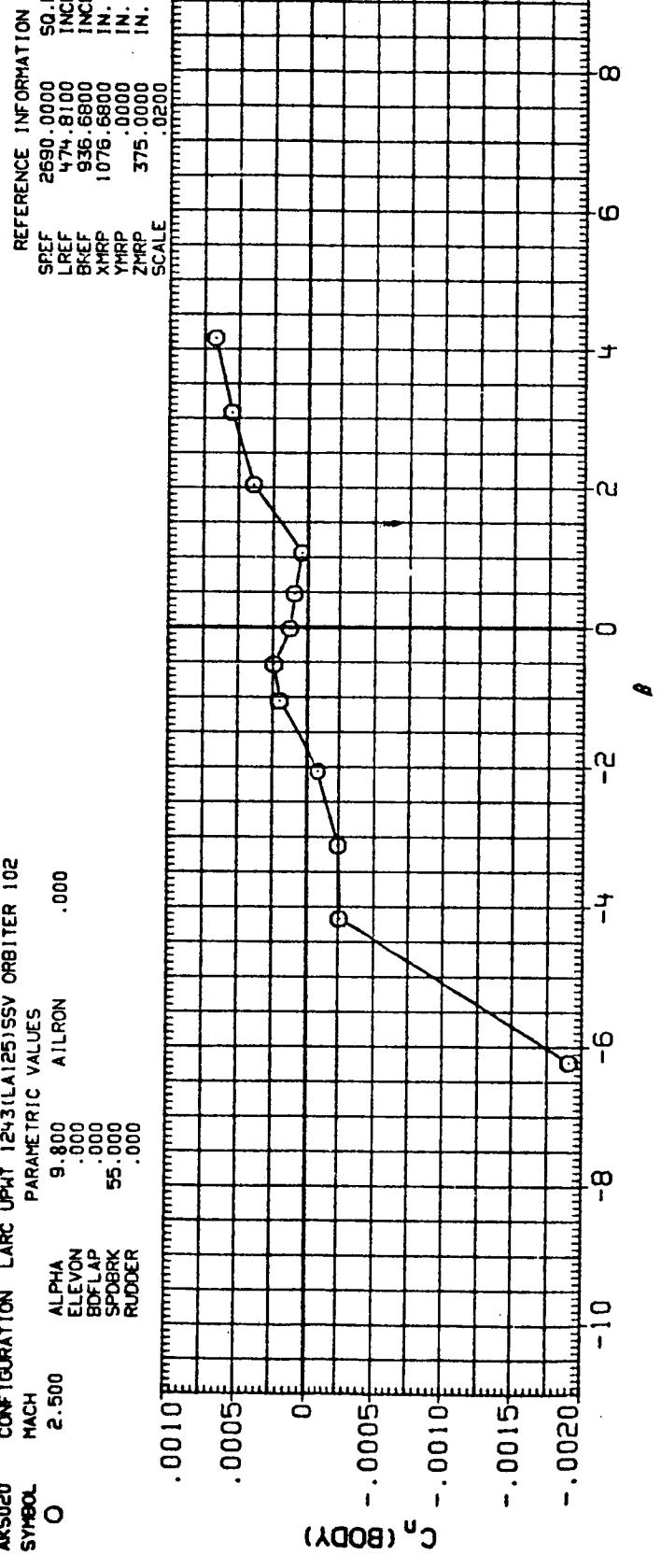


FIGURE 8(K). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 66

AKS021 CONFIGURATION LARC UPWT 1243(LA125)SSV ORBITER 102
 MACH 3.000 PARAMETRIC VALUES
 ALPHA 10.700 ATTIRON .000
 ELEVON .000
 BDFLAP .000
 SPDBRK 55.000
 RUDDER .000

REFERENCE INFORMATION
 SREF 2690.0000 SQ. FT.
 LREF 474.8100 INCHES
 BREF 936.6800 INCHES
 XMRP 1076.6800 IN. X0
 YMRP .0000 IN. Y0
 ZMRP 375.0000 IN. Z0
 SCALE .0200

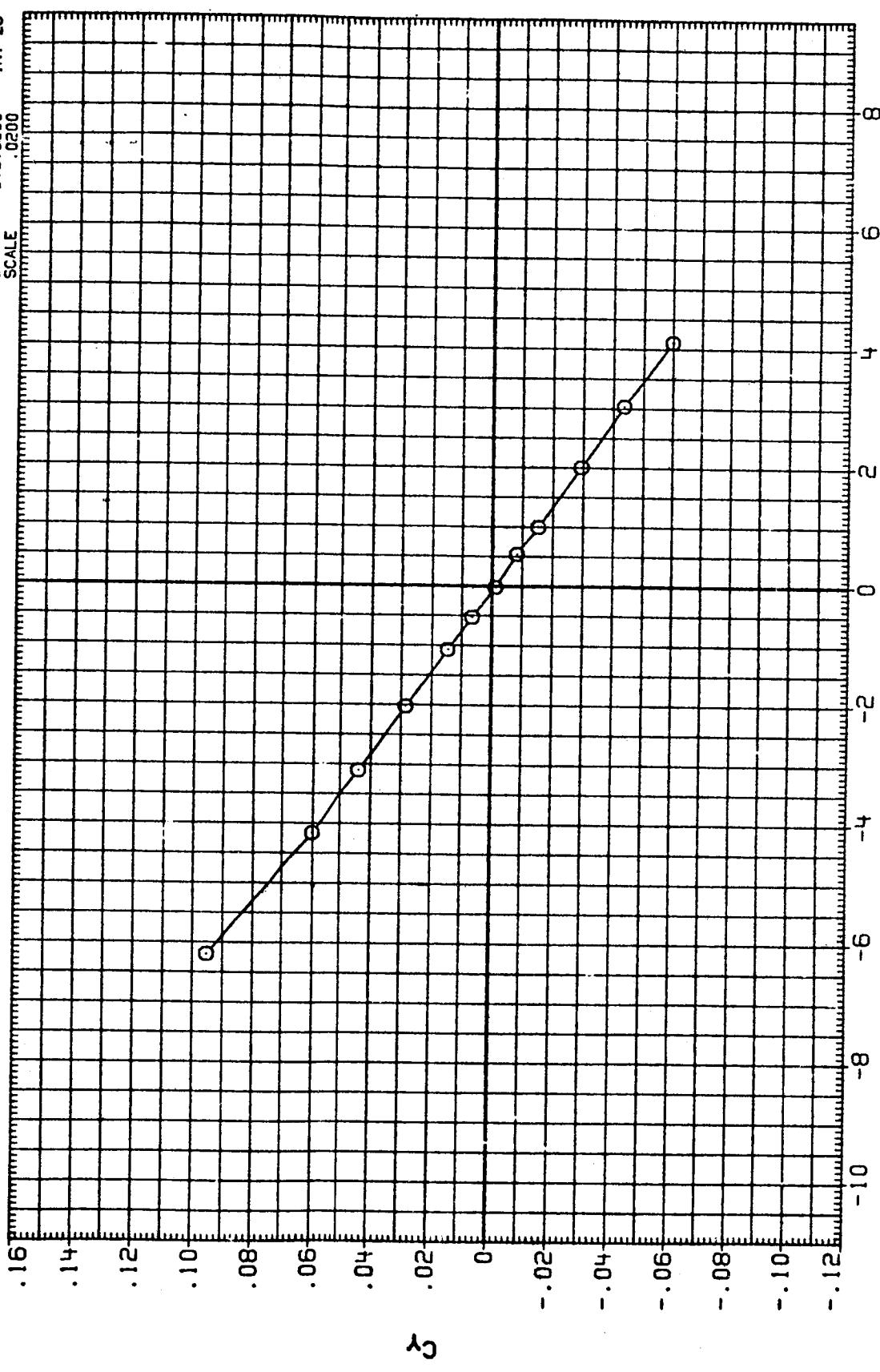


FIGURE 8(L). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.

AKS021 CONFIGURATION LARC UPNT 1243(LA125)SSV ORBITER 102
 SYMBOL MACH PARAMETRIC VALUES
 O 3.000 ALPHA 10.700 AILRON .000
 ELEVON .000
 BDFLAP .000
 SPDBRK 55.000
 RUDDER .000

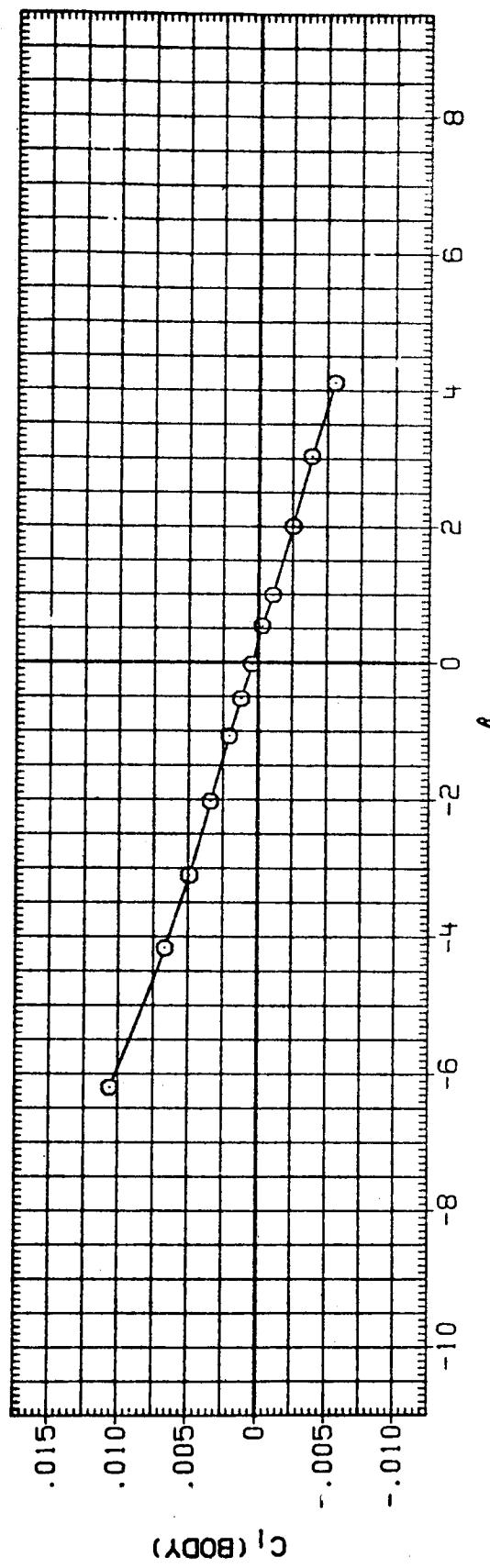
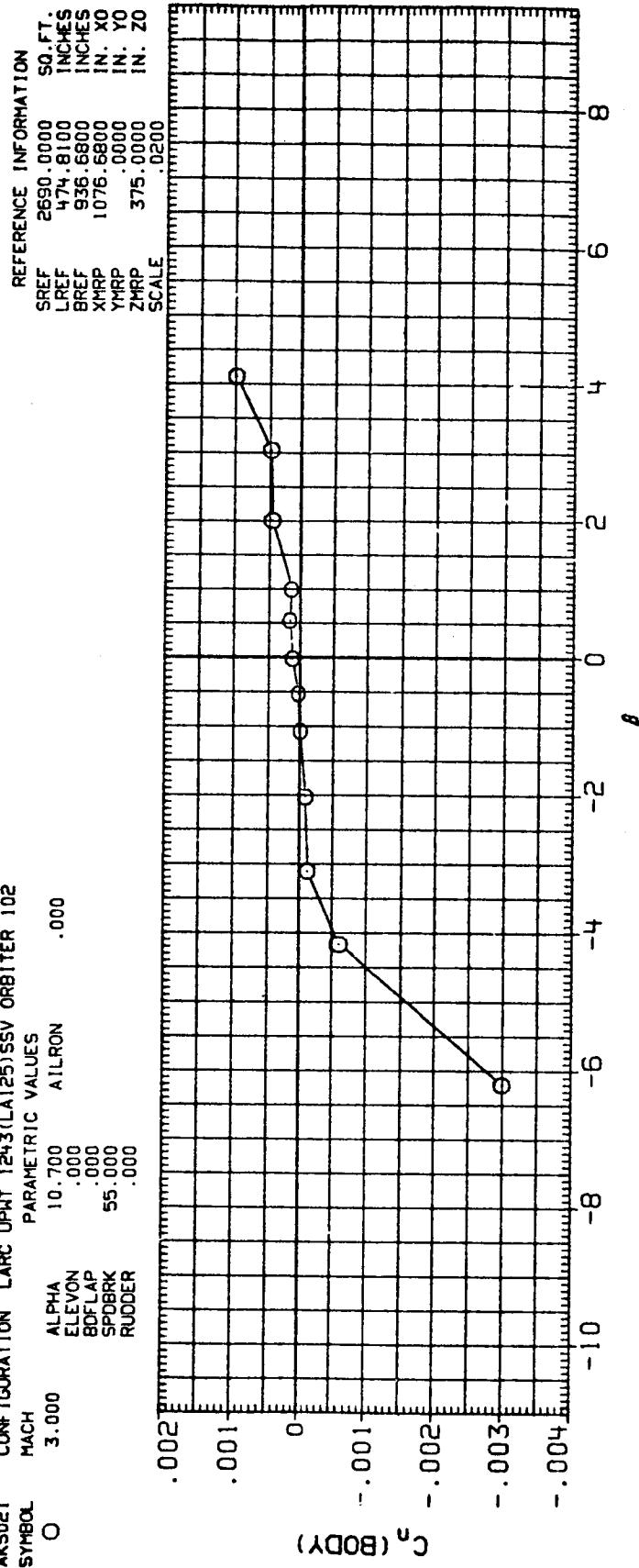


FIGURE 8(L). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP
SPEED BRAKE AT 55 DEG.
PAGE 68

AKS022
 CONFIGURATION LARC UPNT 1243(LA125)SSV ORBITER 102
 MACH 3.500 ALPHA 11.300 AILRDN .000
 ELEVON .0000
 BDFLAP .0000
 SPDRK 55.000
 RUDDER .0000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 474.8100 INCHES
 BREF 936.6800 INCHES
 XMRP 1076.6800 IN. X0
 YMRP .0000 IN. Y0
 ZMRP 375.0000 IN. Z0
 SCALE .0200

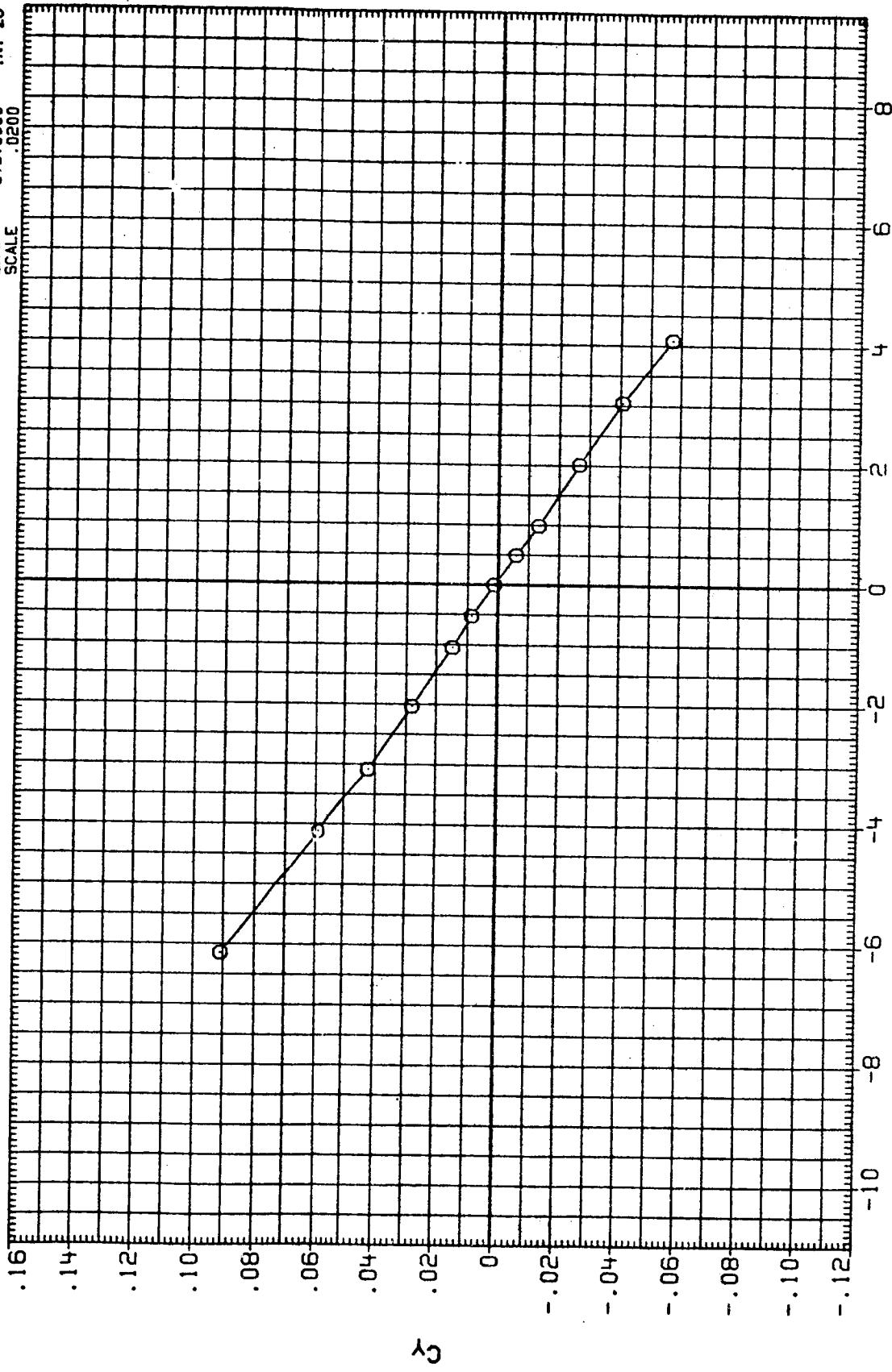


FIGURE 8(M). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP
 SPEED BRAKE AT 55 DEG.
 PAGE 69

AKS022 CONFIGURATION LARC UPWT 124.3 (LA125) SSY ORBITER 102
 MACH 3.500 ALPHA 11.300 AILRON .000
 ELEVON .000 BOFLAP .000 SPIDER 55.000 RUDDER .000

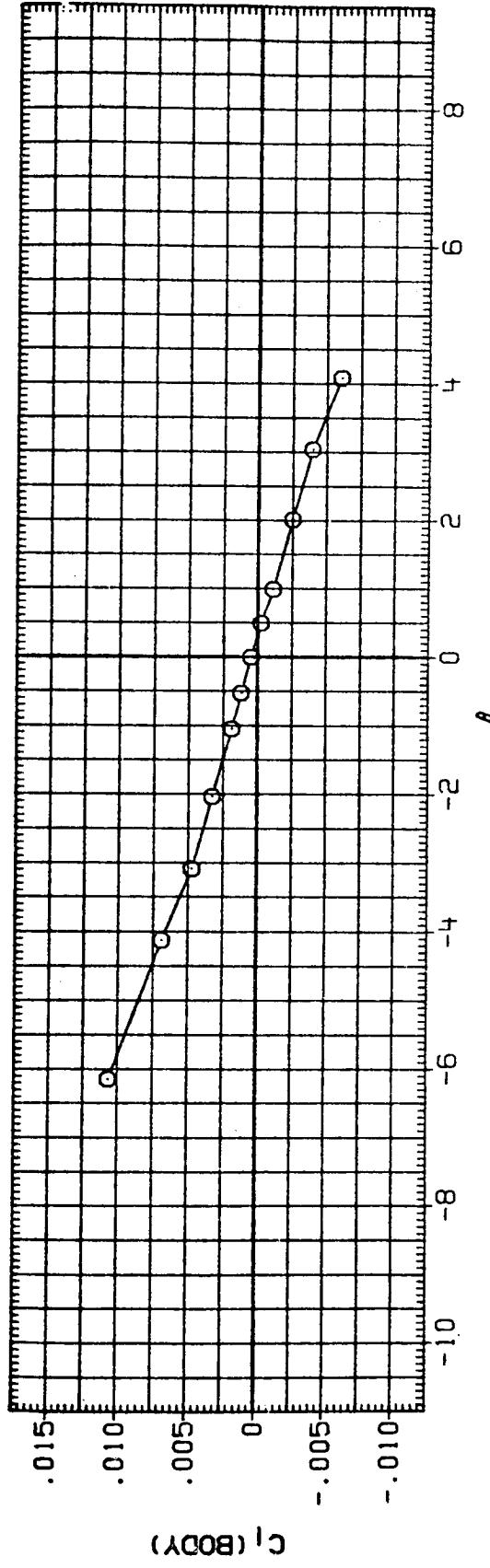
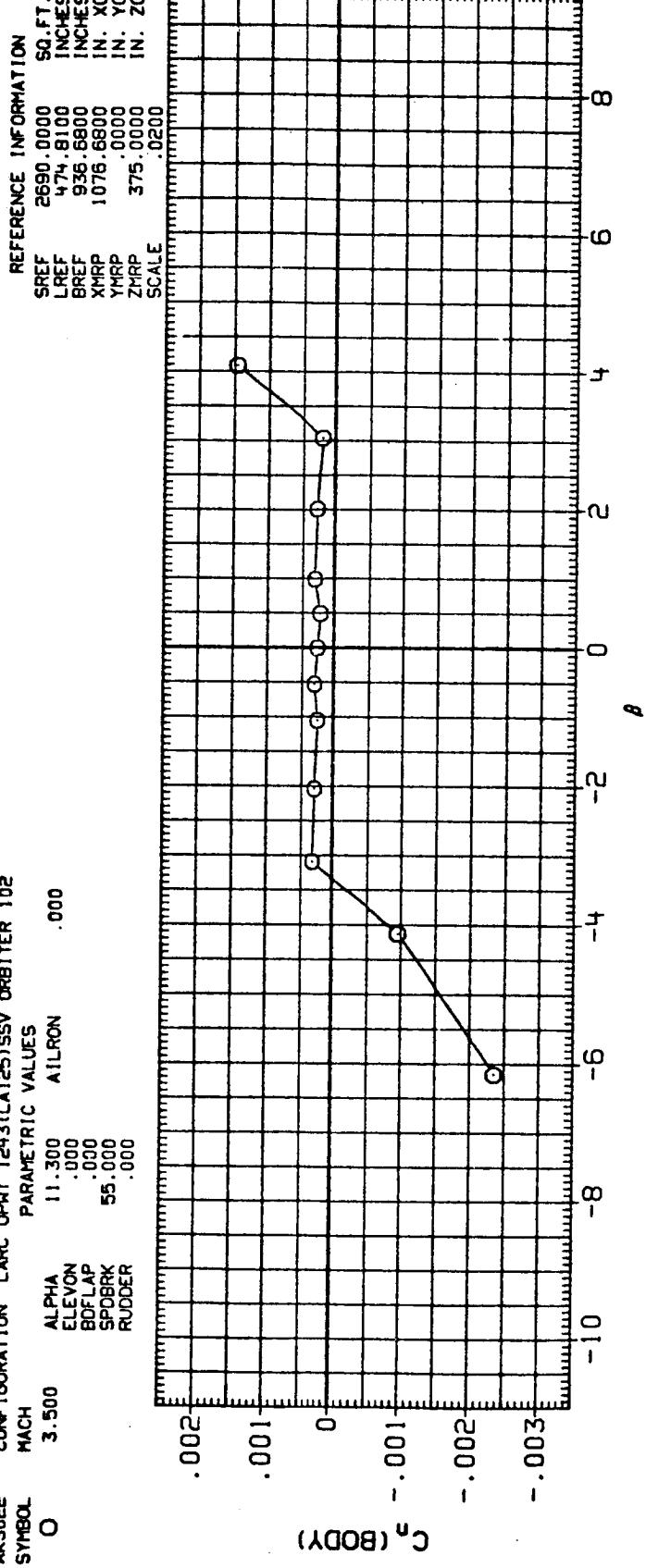


FIGURE 8(M). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 70

AKS023 CONFIGURATION LARC UPHT 1243(LA125)SSV ORBITER 102
 SYMBOL O MACH 4.000 PARAMETRIC VALUES
 ALPHA 11.800 ATTIRON .000
 ELEVON .000
 BDFLAP .000
 SPOBRK 55.000
 RUDDER .000

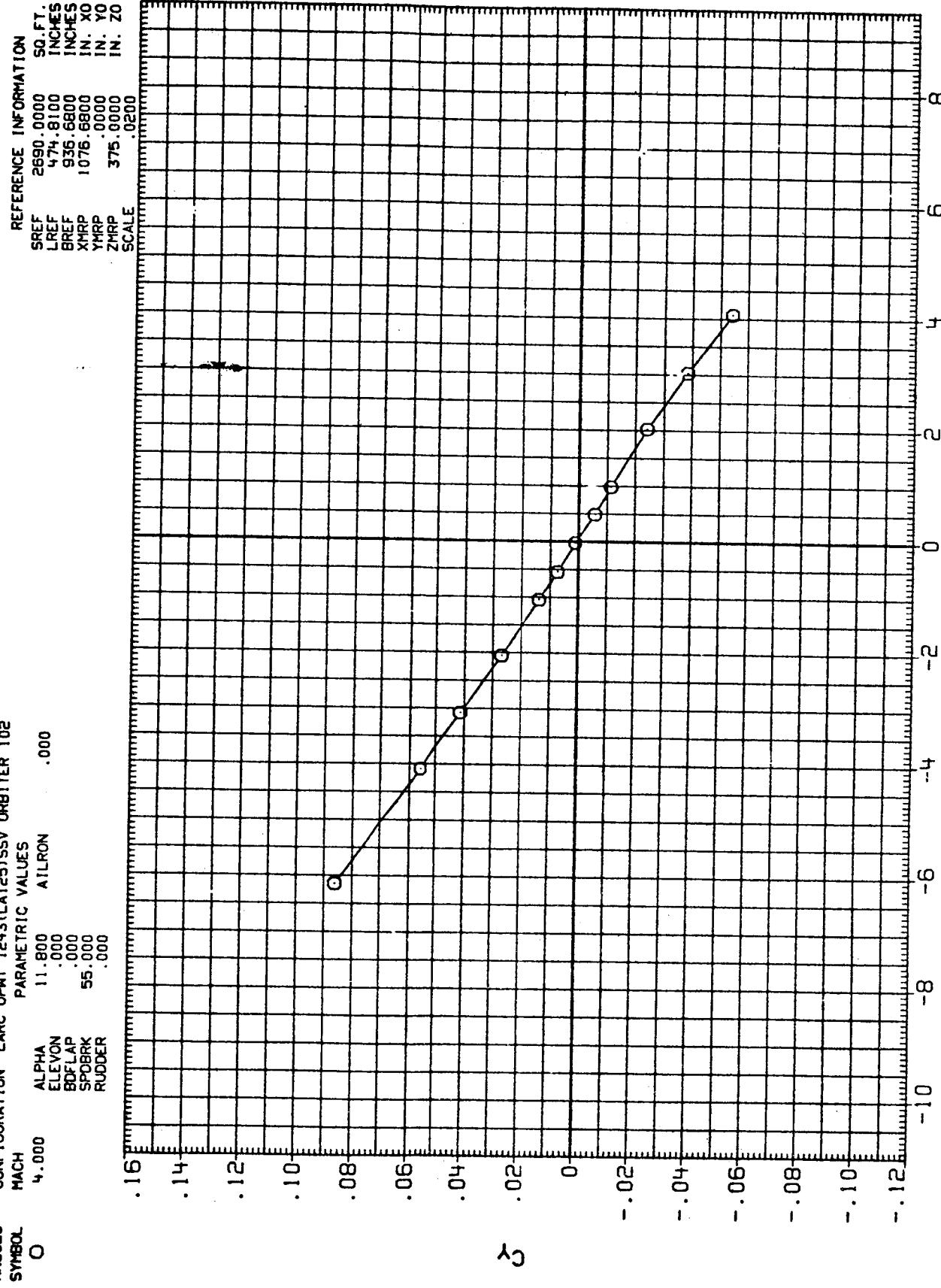


FIGURE 8(N). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 71

AKS023 CONFIGURATION LARC UPNT 1243(LA125)SSV ORBITER 102
 SYMBOL MACH PARAMETRIC VALUES
 O 4.000 ALPHA 11.800 ALRDN .000
 ELEVON .000
 BOFLAP .000
 SPDBRK 55.000
 RUDDER .000

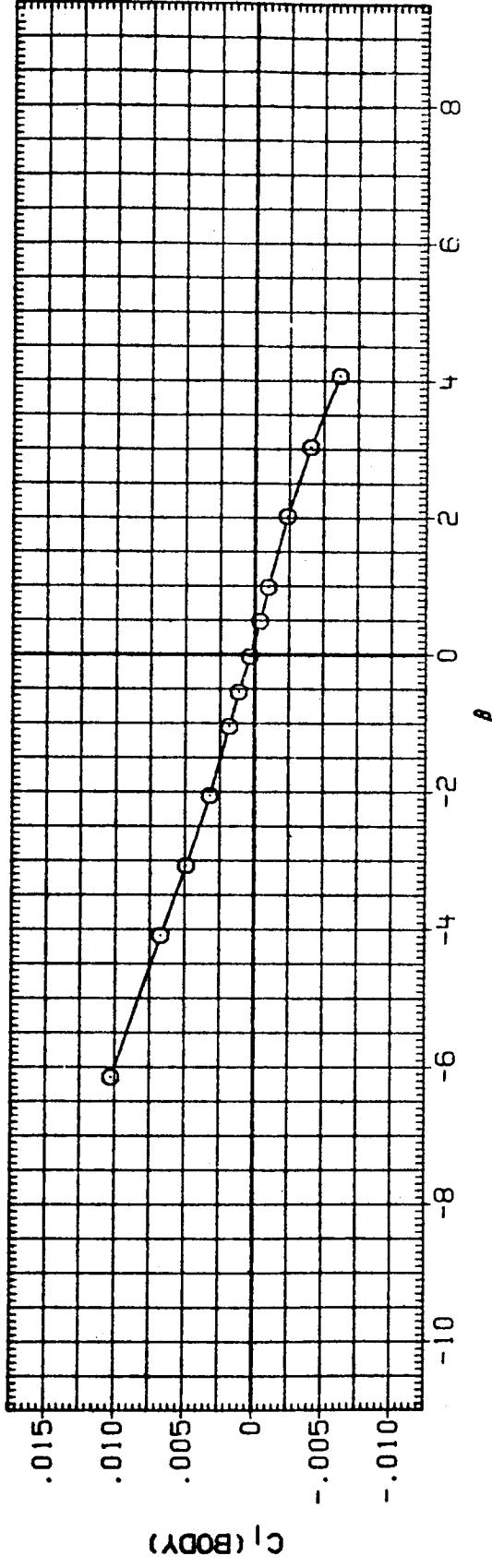
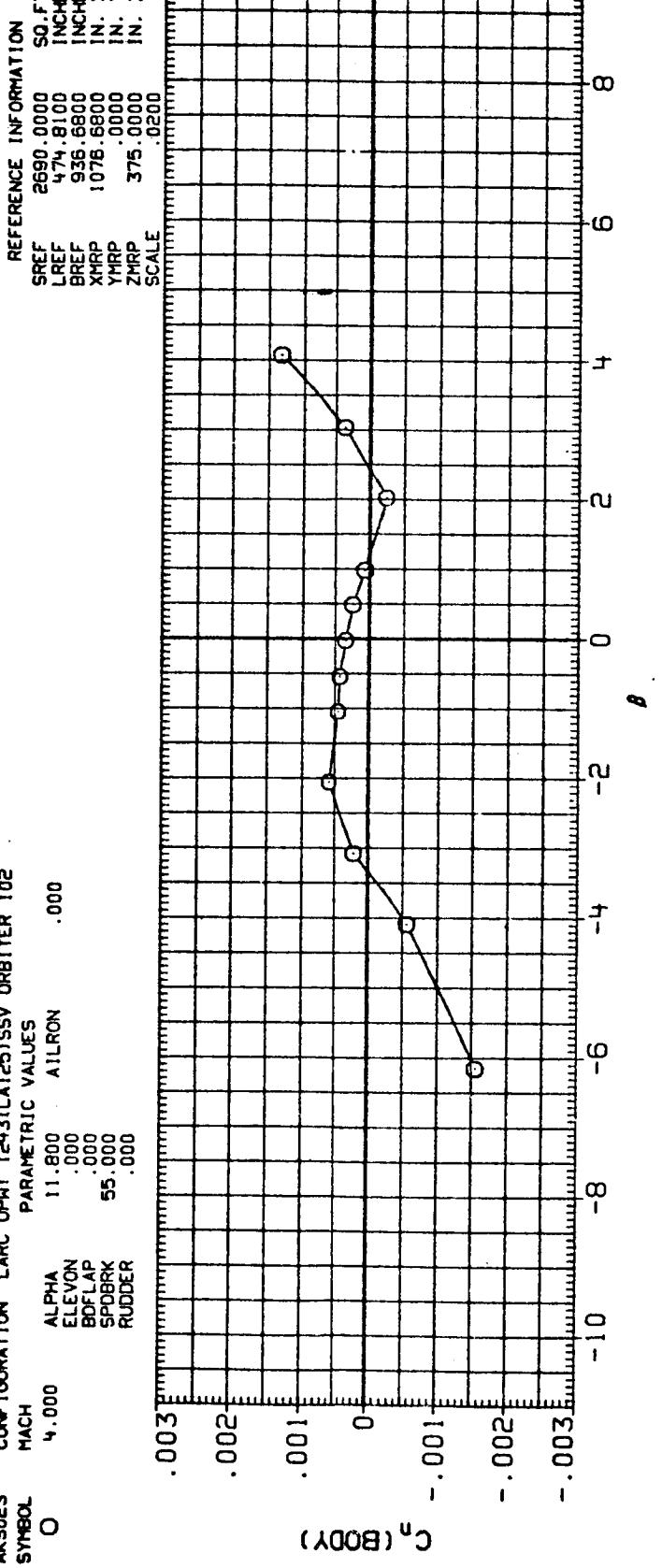


FIGURE 8(N). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 72

AKS024
SYMBOL

CONFIGURATION LARC UPWT 1243(LA125)SSV ORBITER 102
PARAMETRIC VALUES
MACH 4.500 ALPHA 12.400 AILRDN .009
ELEVON .000 BDFLAP .000
SPDRK 55.000 RODDER .000

REFERENCE INFORMATION
SREF 2690.0000 SQ. FT.
LREF 474.8100 INCHES
BREF 936.6800 INCHES
XMRP 1076.6800 IN. X0
YMRP 375.0000 IN. Y0
ZMRP .0200 IN. Z0
SCALE .0200

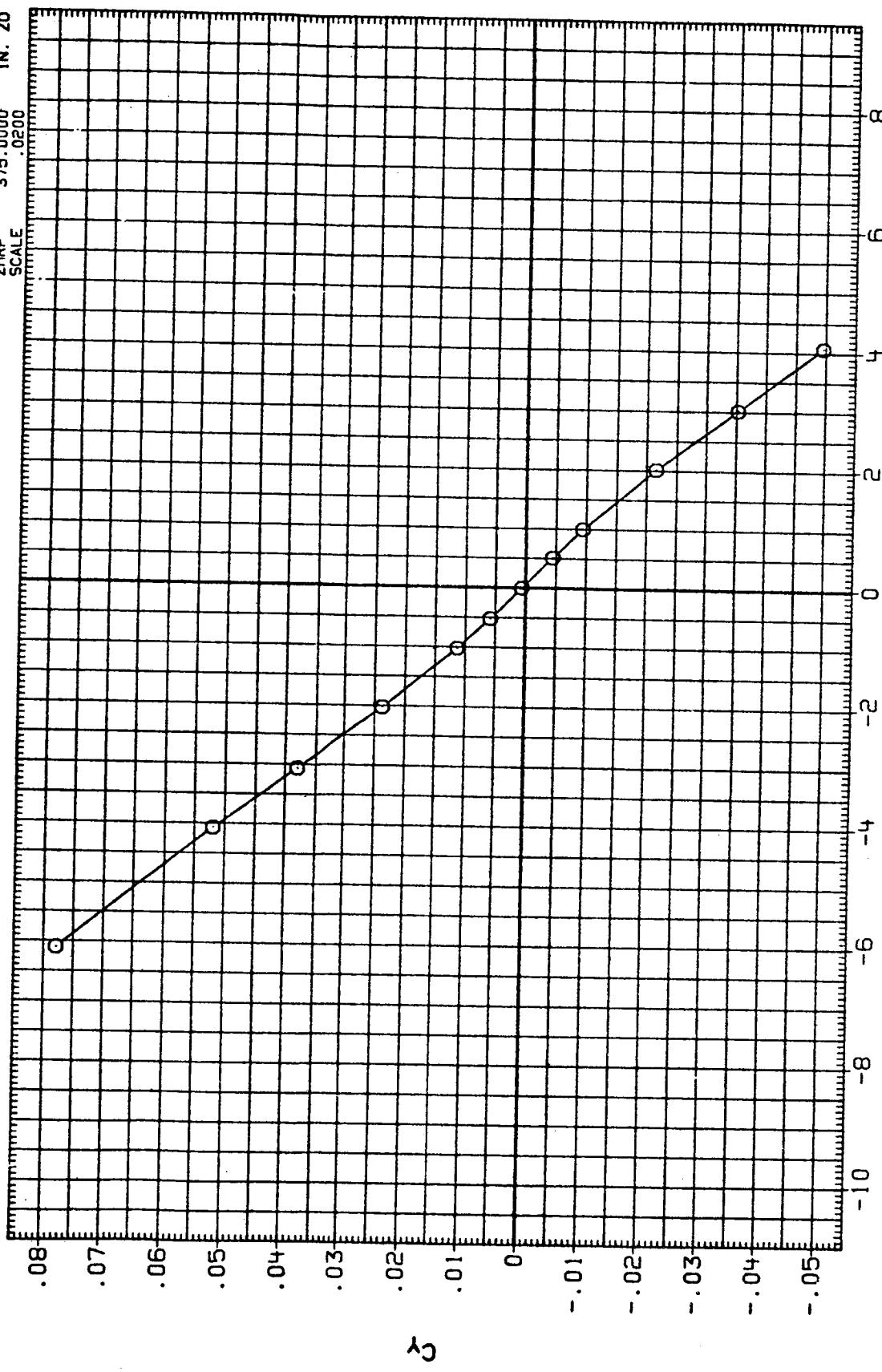


FIGURE 8(0). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 73

AKS024
CONFIGURATION LARC UPNT 1243(LA125)SS ORBITER 102

SYMBOL	MACH	ALPHA	AIRLON	.000
O	4.500	12.400	ELEVON	.000
		.000	BDFLAP	.000
		.000	SPDBRK	55.000
		.000	RUDDER	.000

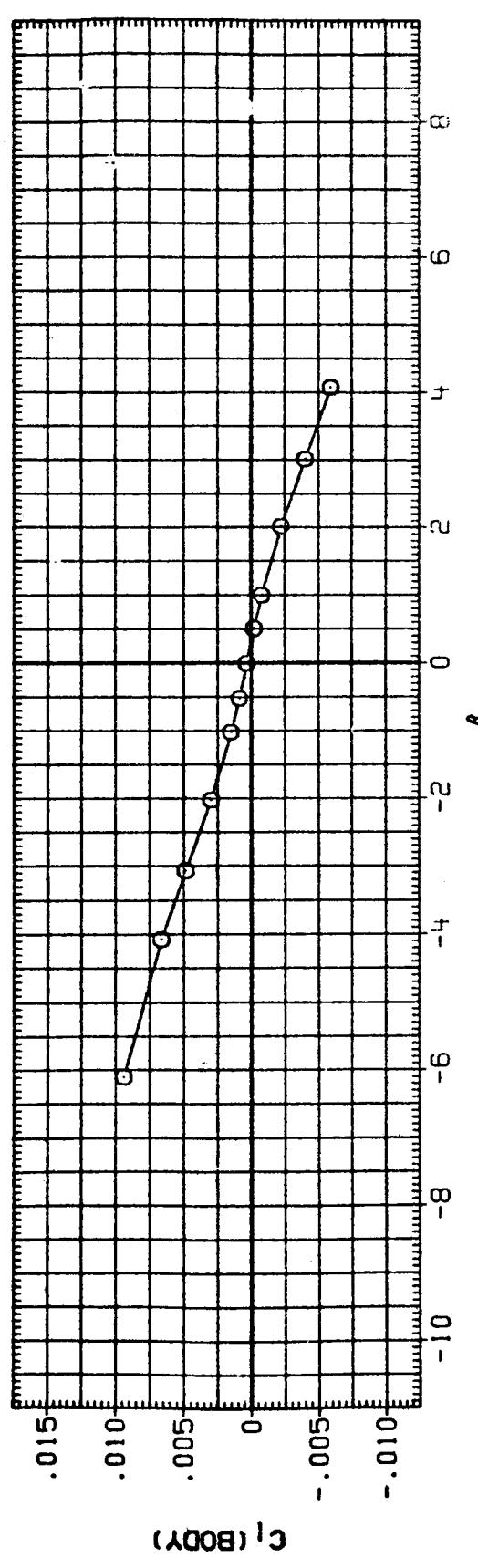
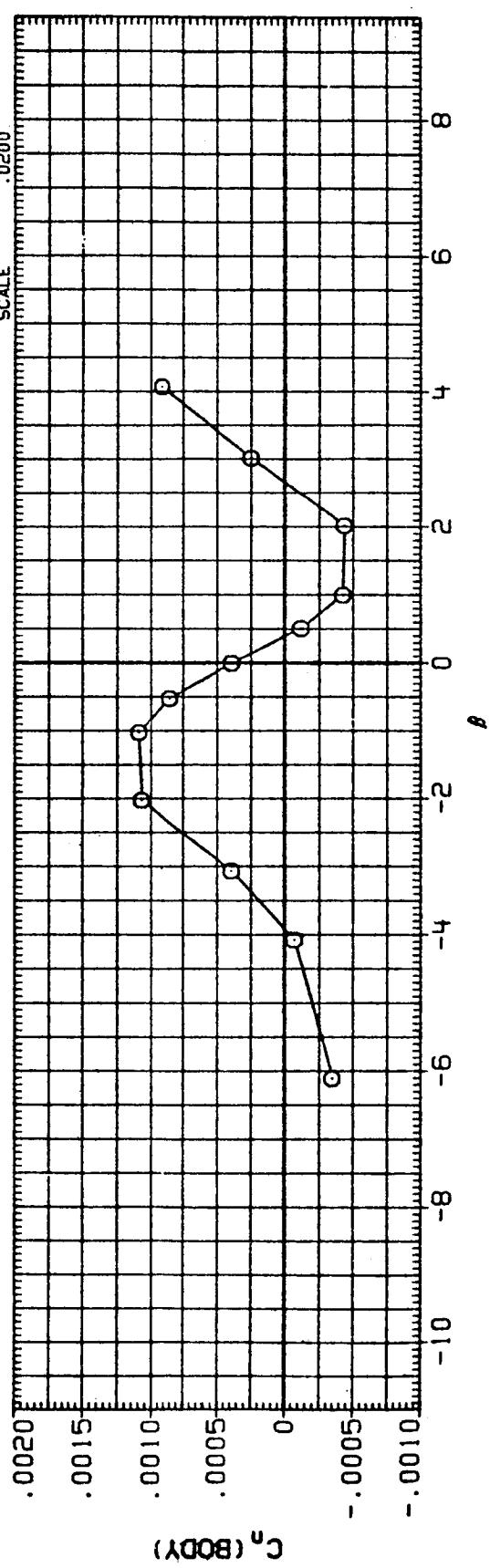


FIGURE 8(0). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 74

AKS025 CONFIGURATION LARC UPWT 1243((LA)25)SSV ORBITER 102
 MACH 2.500 ALPHA 12.900 AILRDN .000
 ELEVON .000 BDFLAP .000
 SPDBRK 55.000 RUDDER .000

REFERENCE INFORMATION
 SREF 2690.0000 50. FT.
 LREF 474.8100 INCHES
 BREF 938.6800 INCHES
 XMRP 1076.6800 IN. X0
 YMRP .0000 IN. Y0
 ZMRP 375.0000 IN. Z0
 SCALE .0200

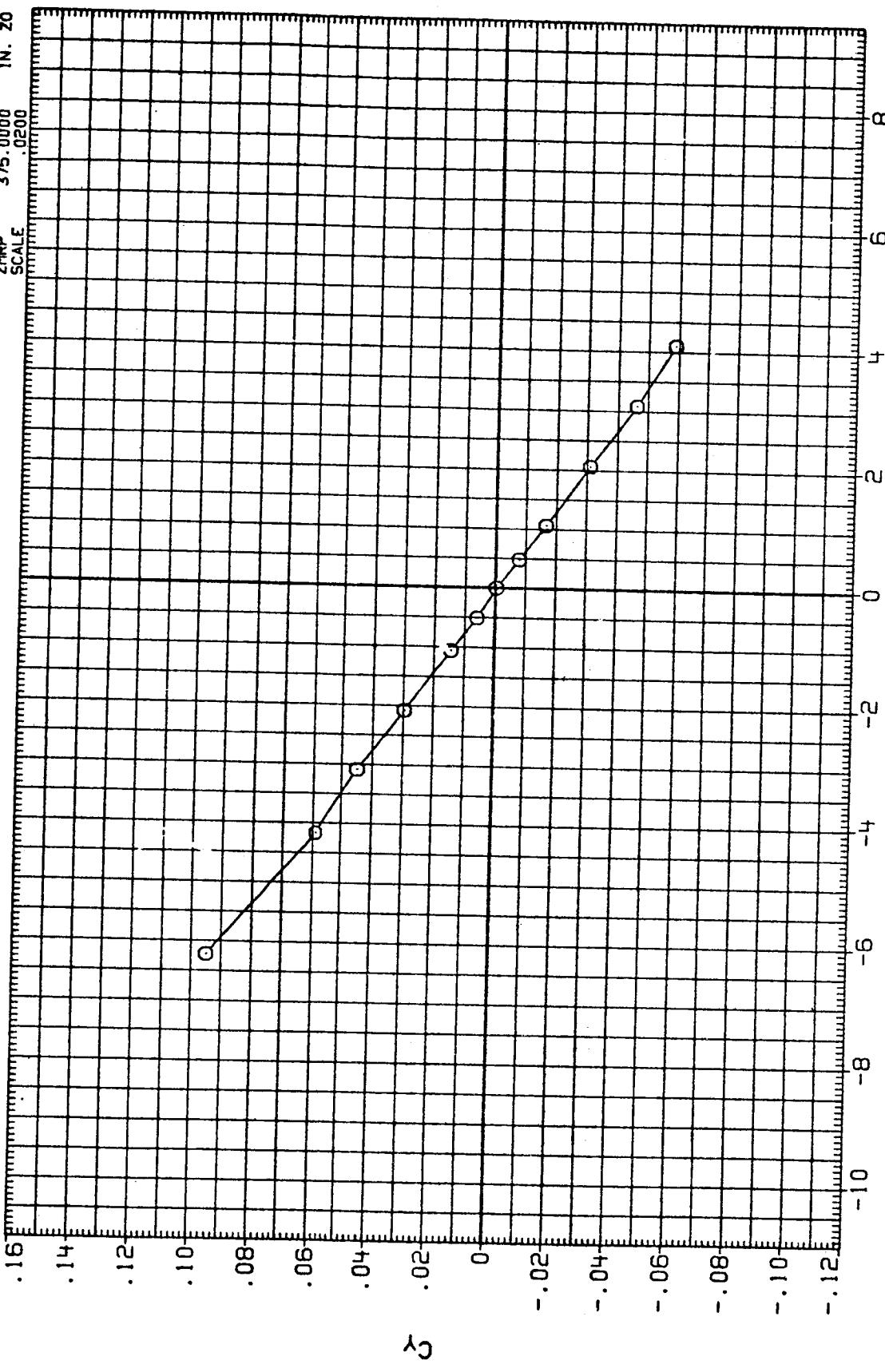


FIGURE 8(P). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.

AKS025 CONFIGURATION LARC UPT 1243(LA125)SSV ORBITER 102
 MACH 2.500 ALPHA 12.900 AILRON .000
 ELEVON .000 BDFLAP .000
 SPDBRK 55.000 RUDER .000

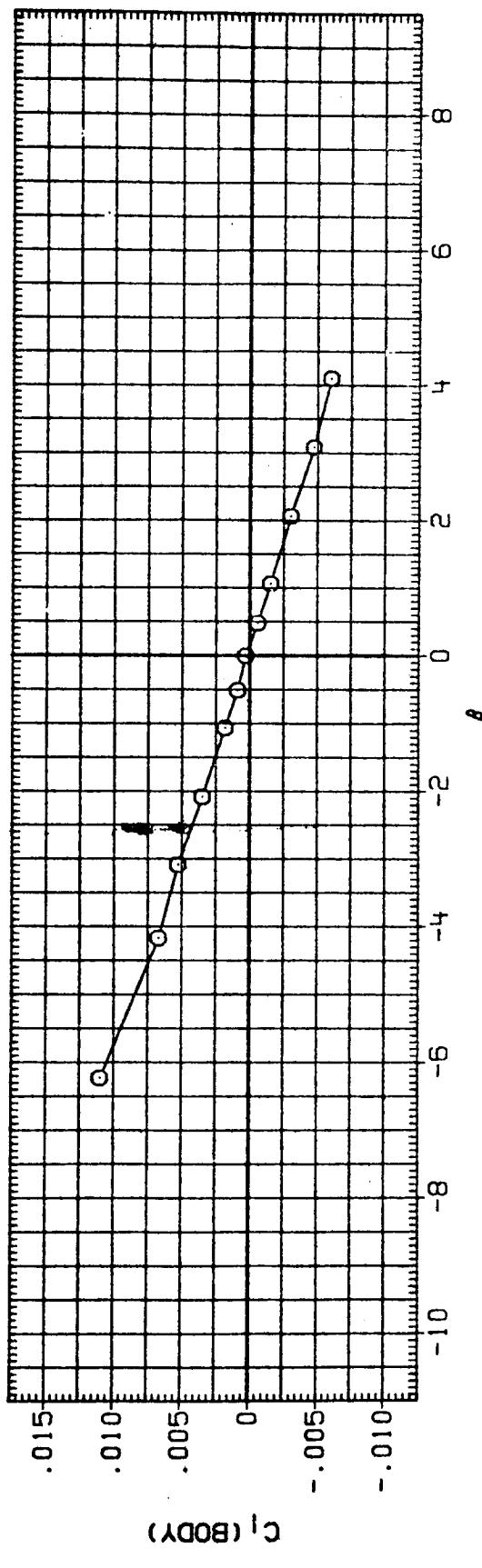
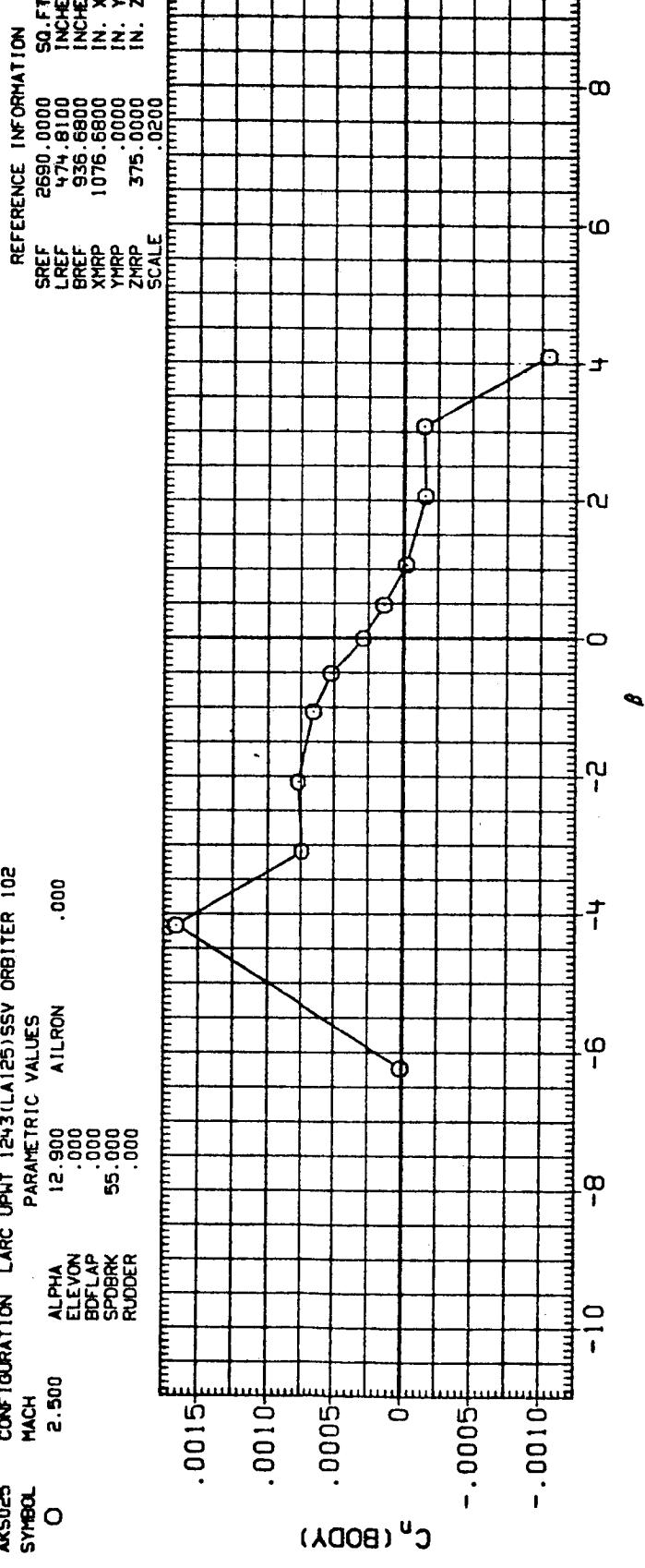


FIGURE 8(P). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.

AWS028
SYMBOL

CONFIGURATION LARC UPWT 1243(LA125)SSV ORBITER 102

	MACH	ALPHA	AIRRON
O	3.000	.14 .000	.000
	ELEVON	.000	
	BDF LAP	.000	
	SPOILER	.55 .000	
	RUDDER	.000	

REFERENCE INFORMATION
 SREF 2690 .0000 SO. FT.
 LREF 474 .8100 INCHES
 BREF 936 .6800 INCHES
 XMRP 1076 .6800 IN. X0
 YMRP .0000 IN. Y0
 ZMRP .375 .0000 IN. Z0
 SCALE .0500

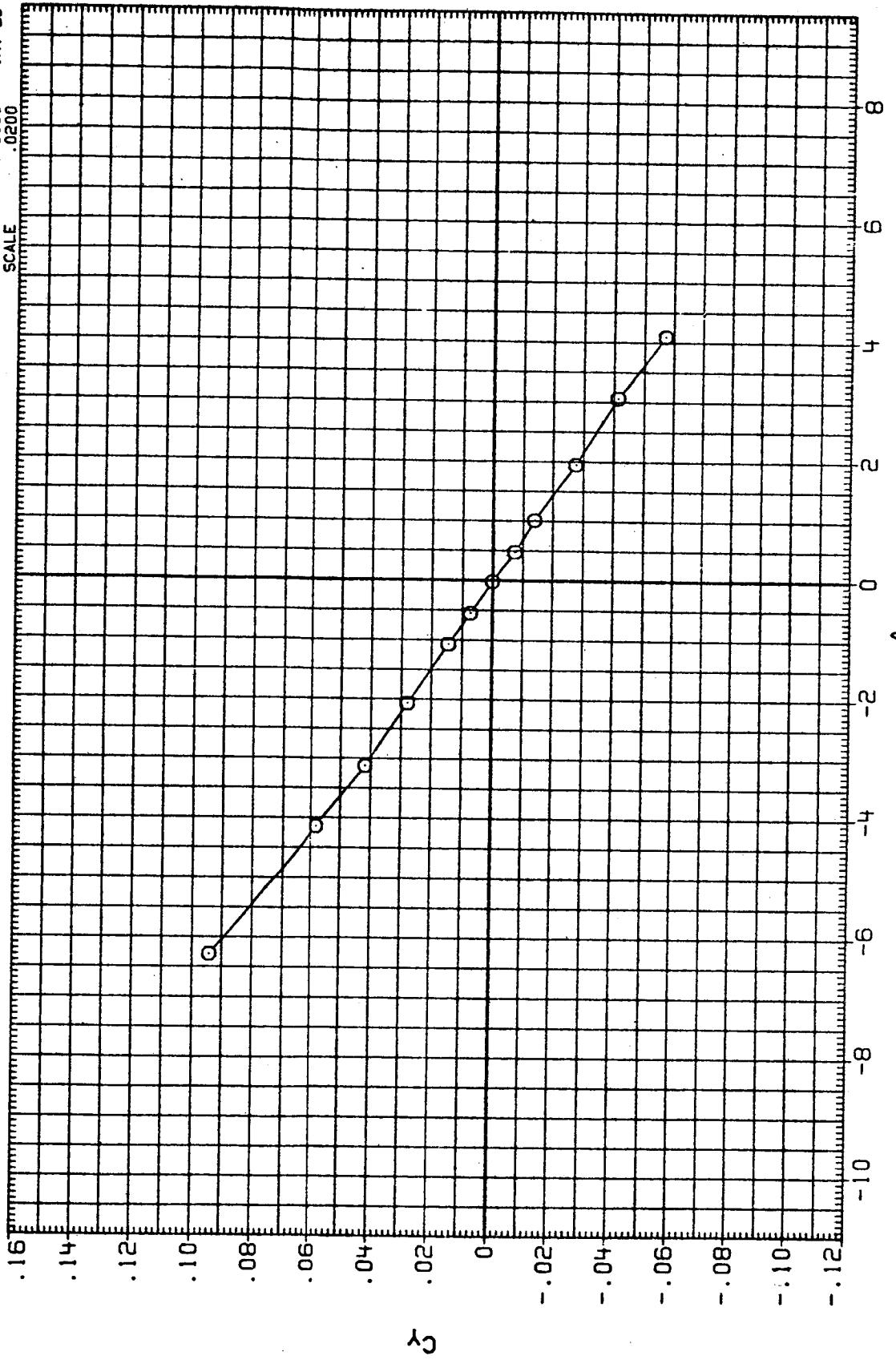


FIGURE 8(Q). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 77

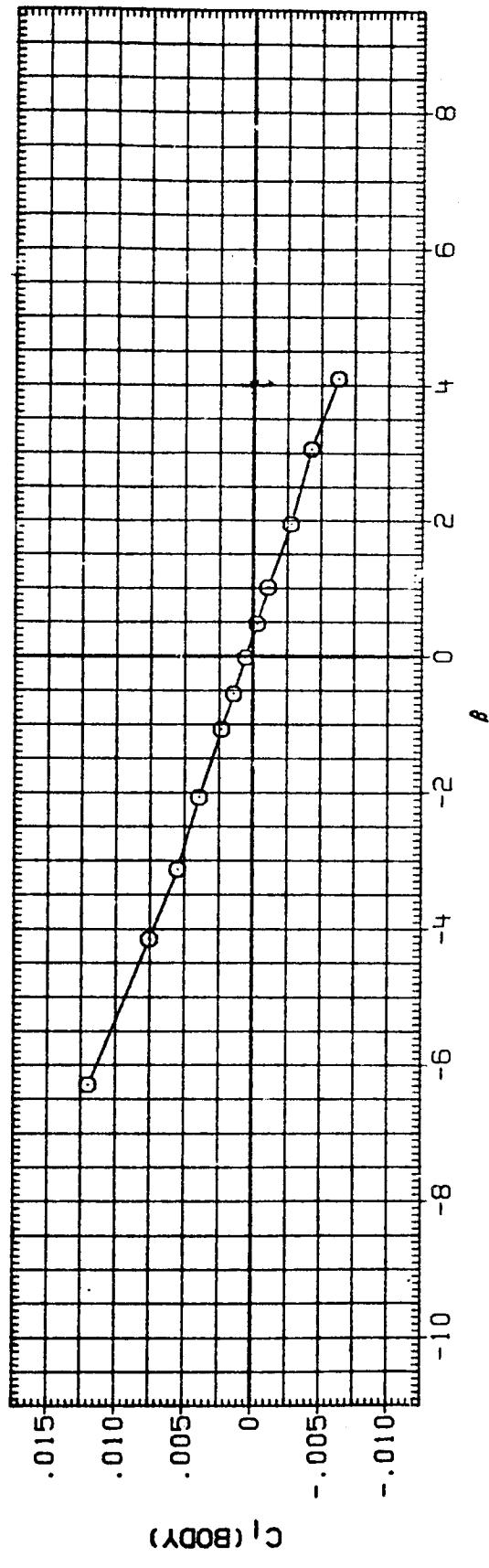
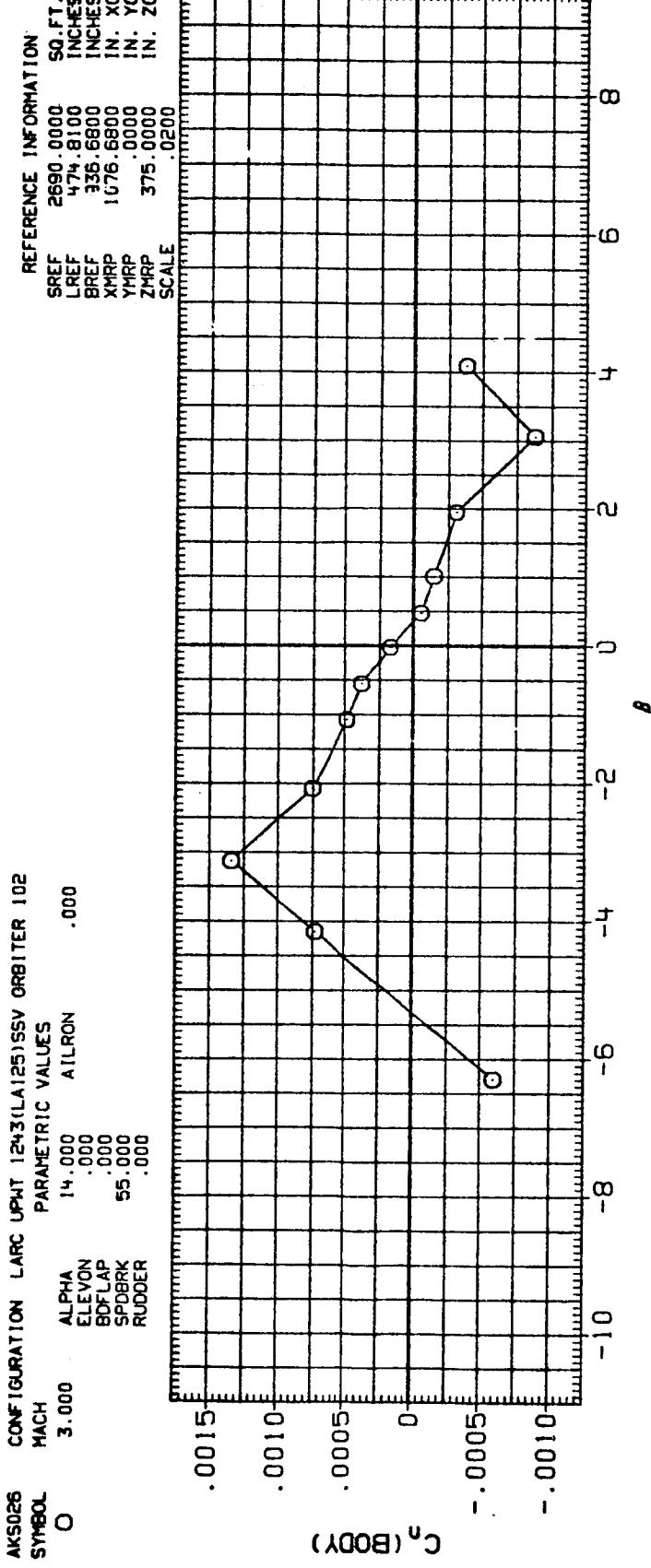


FIGURE 8(Q). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 78

AKS027
CONFIGURATION LARC UPNT 1243(LA125)SSV ORBITTER 102

SYMBOL	MACH	ALPHA	PARAMETRIC VALUES
O	3.500	14.800	AILRON .000
	ELEVON .000		
	BDFLAP .000		
	SPDBRK 55.000		
	RUDDER .000		

REFERENCE INFORMATION

	SREF	SQ.FT.
LREF	2690.0000	474.8100
BREF	936.6800	INCHES
XMRP	1076.6800	IN.
YMRP	.0000	XO IN.
ZMRP	375.0000	YO IN.
SCALE	.0200	ZO IN.

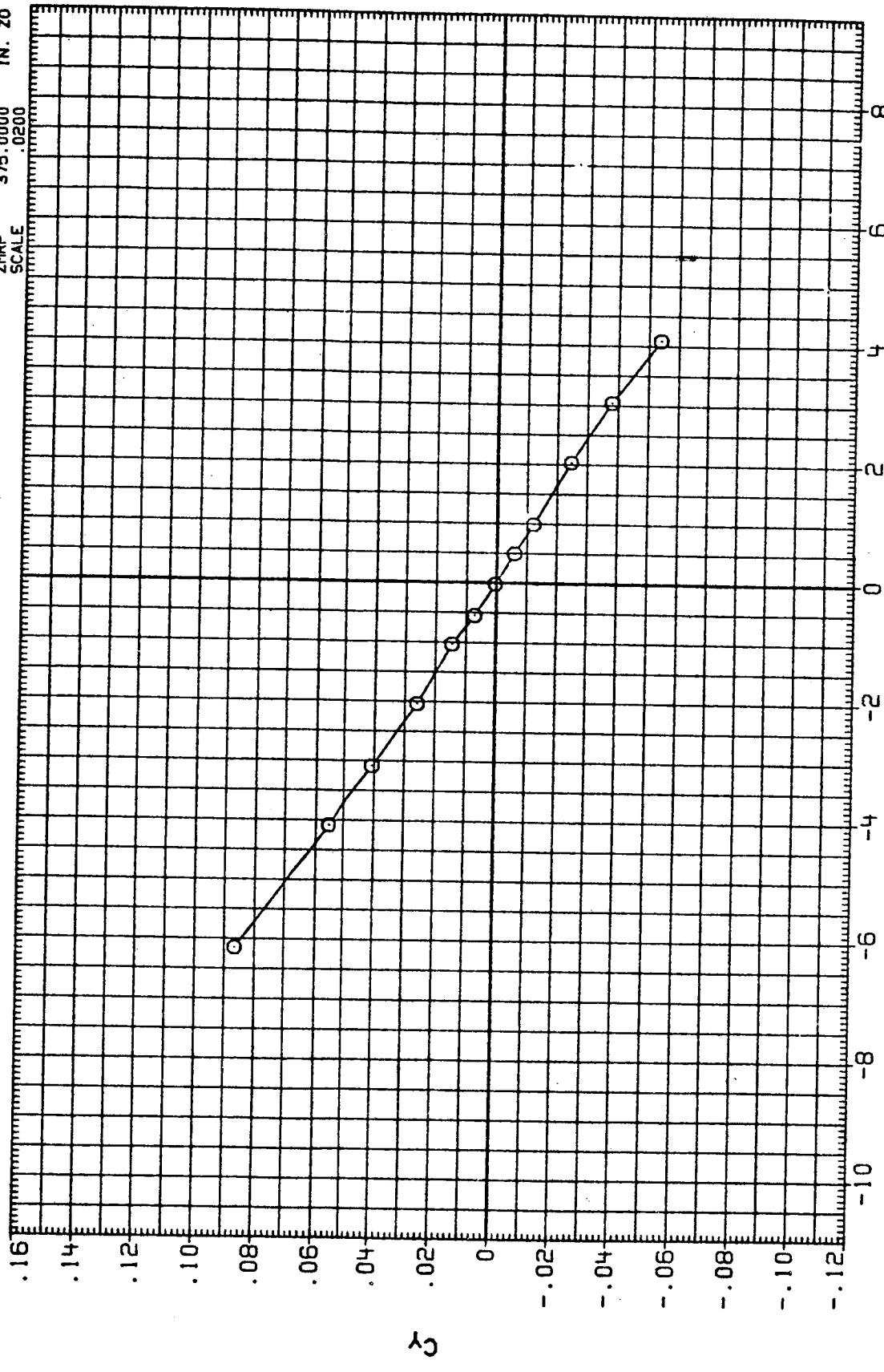


FIGURE 8(R). ORBITTER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 79

AIRCRAFT
CONFIGURATION LARC UPWT 1243(LA125)SSV ORBITER 102
MACH 3.500 ALPHA 14.800 ALTRON .000
ELEVON .000 BOFLAP .000 SPDBRK 55.000 RUDDER .000

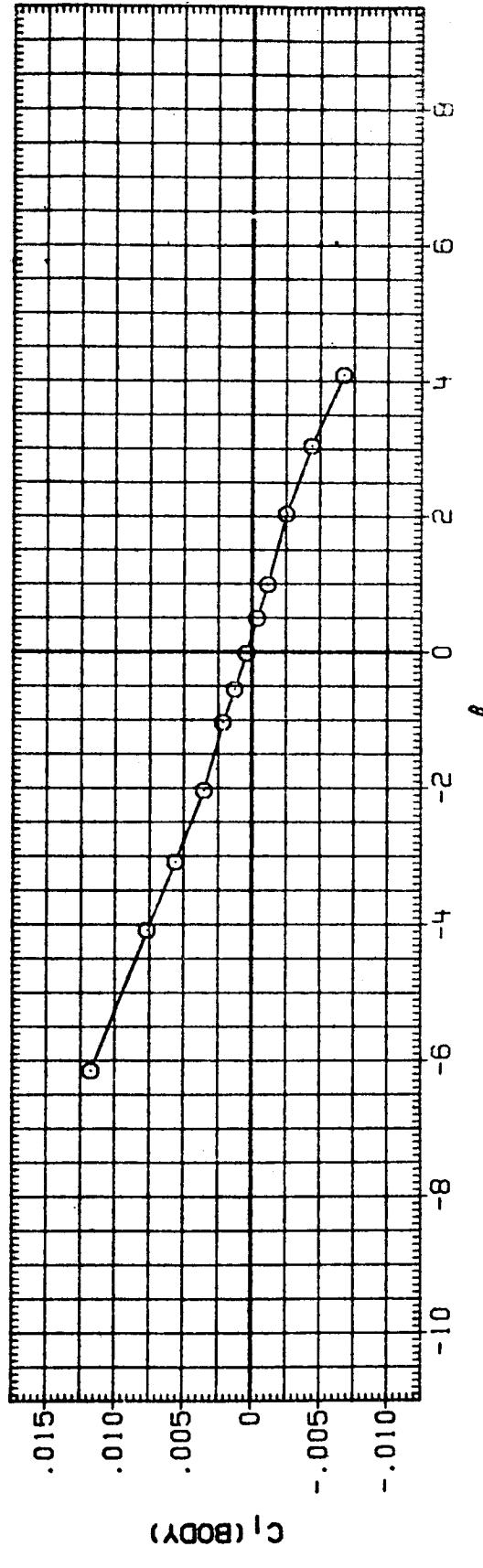
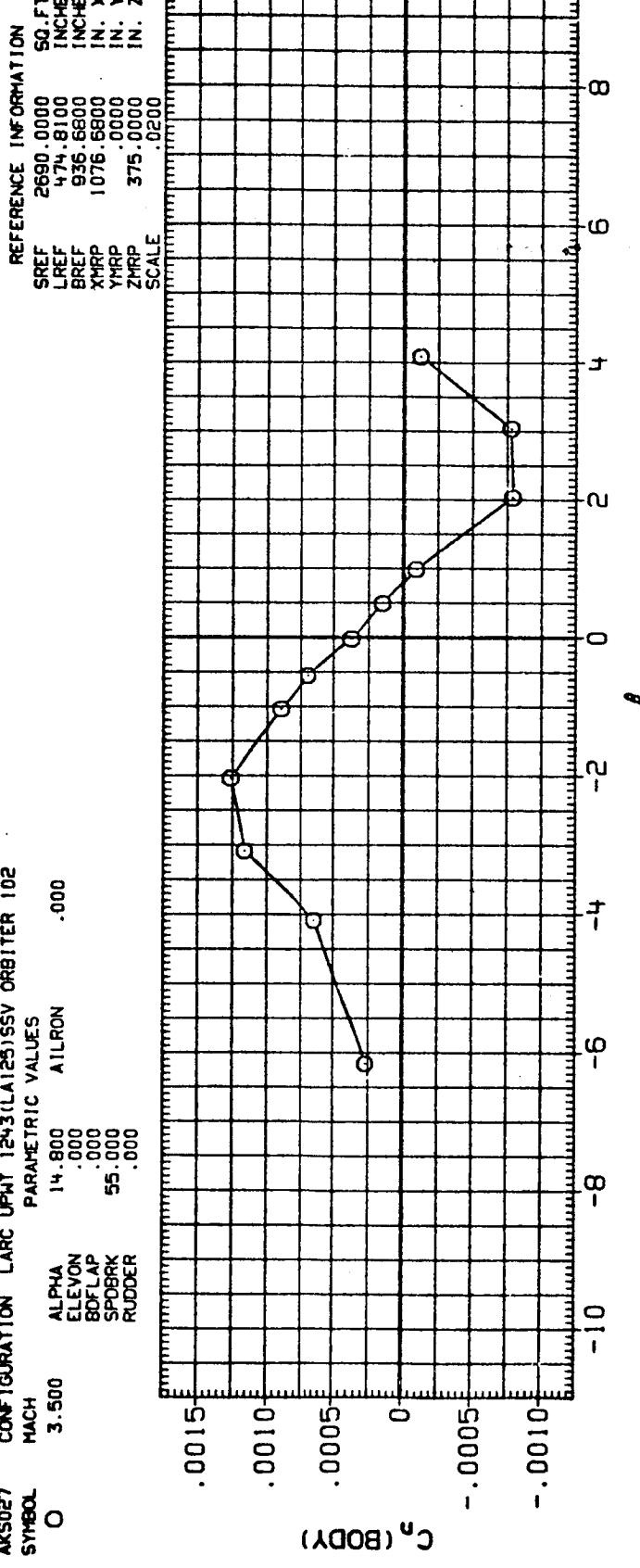


FIGURE 8(R). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 80

AK5028 CONFIGURATION LARC UPNT 1243(LA125)SSV ORBITER 102
 MACH 4.000 ALPHA 15.400 AILRON .000
 ELEVON .000 BOFLAP .000 SPDBRK 55.000 RUDDER .000

REFERENCE INFORMATION
 SREF 2690.0000 SQ. FT.
 LREF 474.8100 INCHES
 BREF 936.6800 INCHES
 XMRP 1076.6800 IN. X0
 YMRP .0000 IN. Y0
 ZMRP 375.0000 IN. Z0
 SCALE .0200

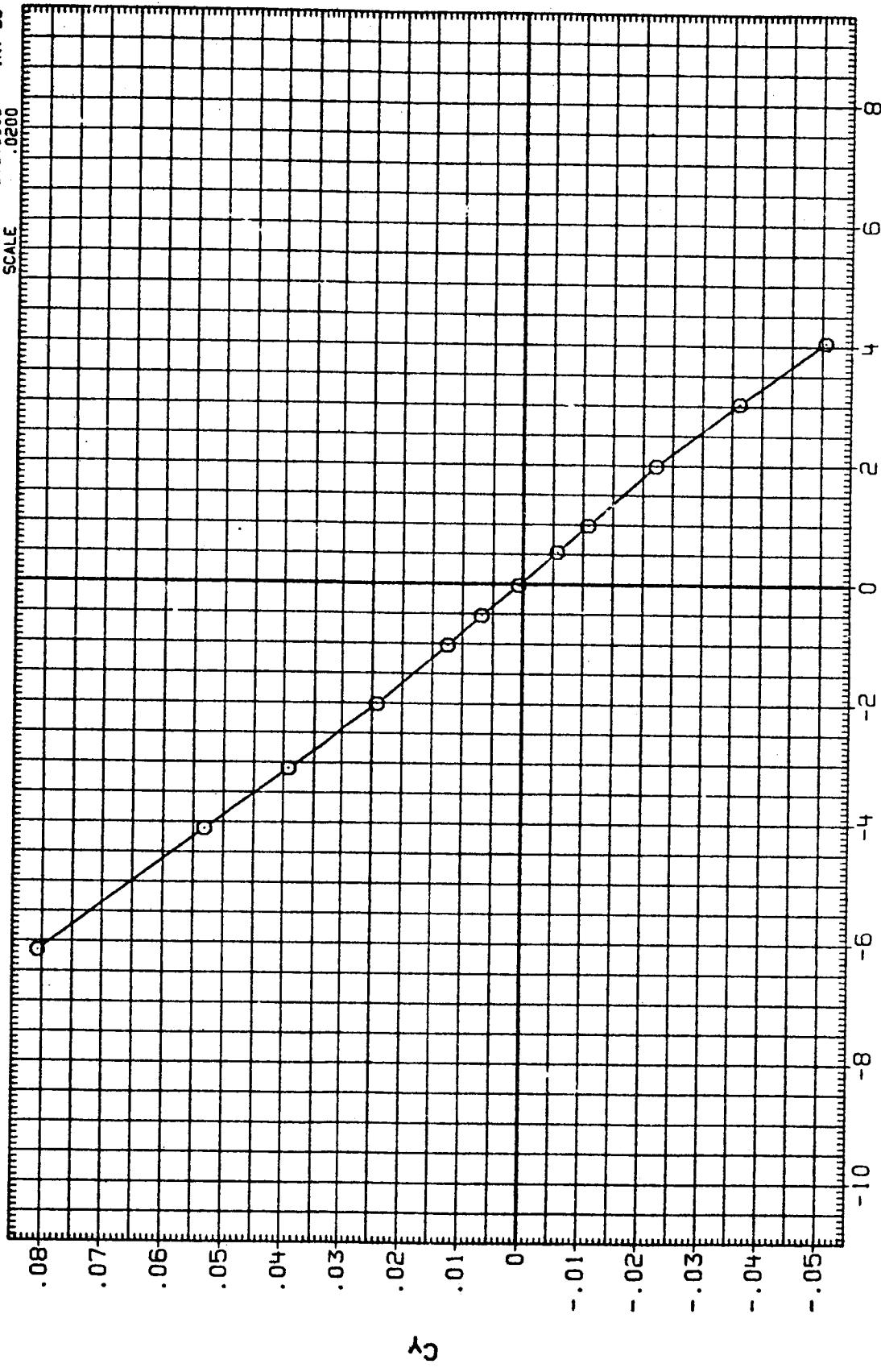


FIGURE 8(S). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 81

AK5029 CONFIGURATION LARC UPN 12H3(LA125)SSV ORBITER 102
 MACH 4.000 PARAMETRIC VALUES
 ALPHA 15.400 AIRRON .000
 ELEVON .000
 BDFLAP .000
 SPD BRK 55.000
 RUDDER .000

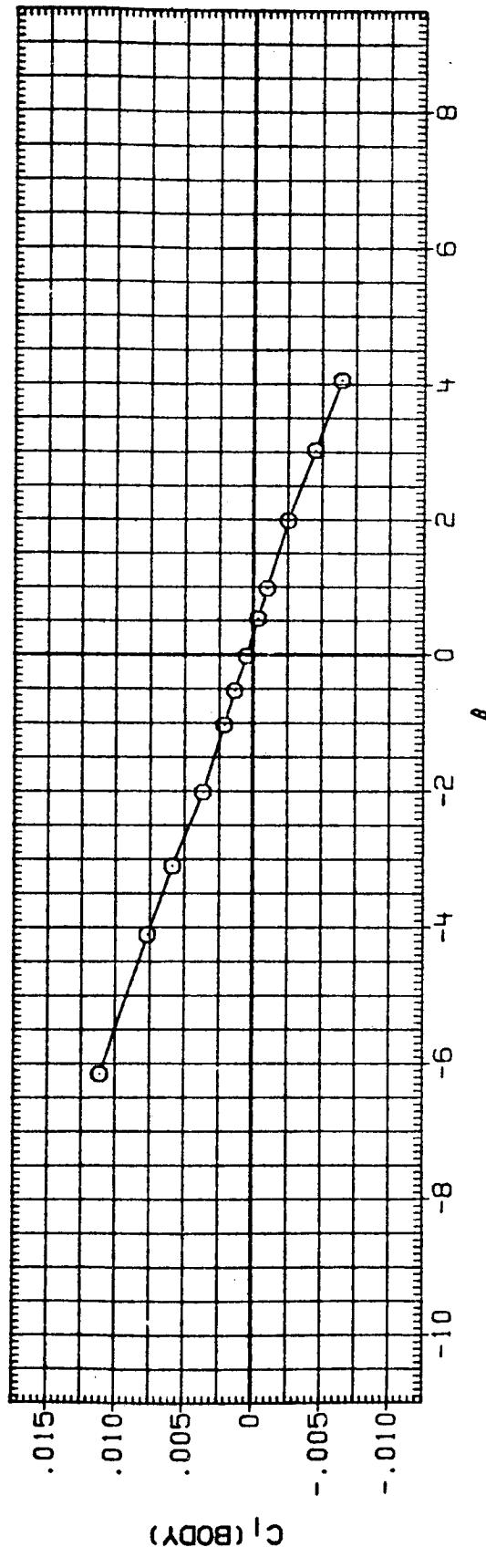
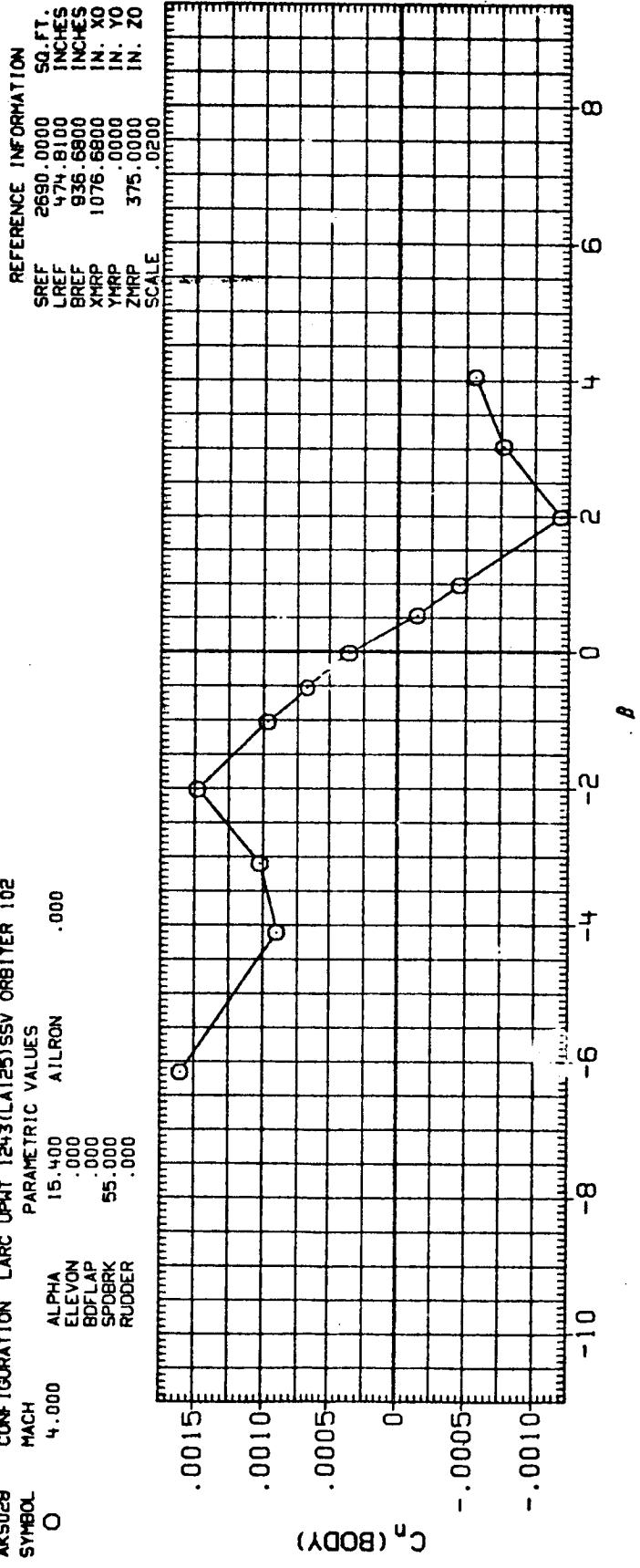


FIGURE 8(S). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 82

AKS028 CONFIGURATION LARC UPWT 1243(LA125)SSV ORBITER 102
 SYMBOL MACH ALPHA ELEVON AIRRON
 O 4.500 .16.200 .000 .000
 BDFLAP SPDBRK RUDDER
 .000 55.000 .000

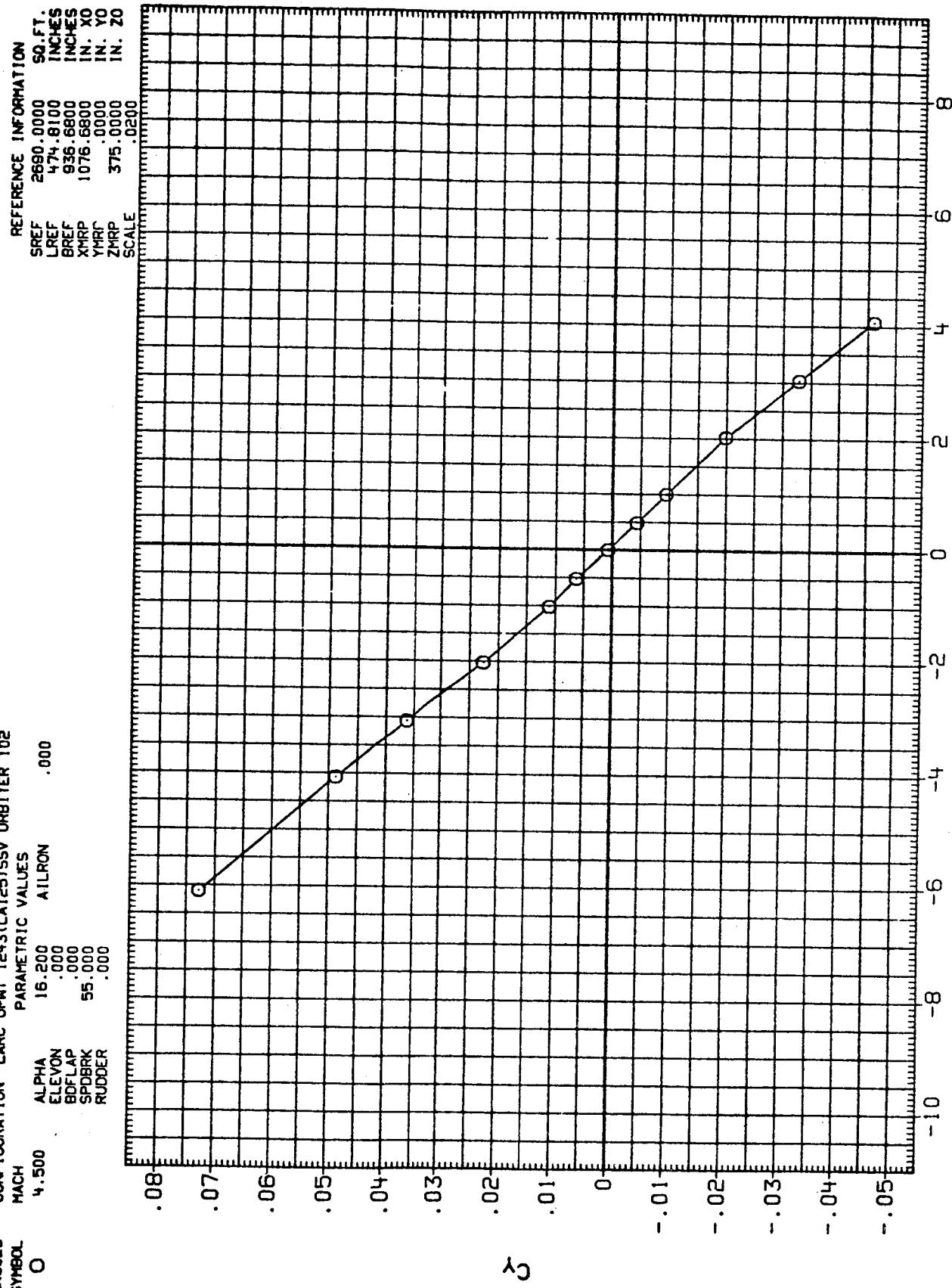


FIGURE 8(T). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 83

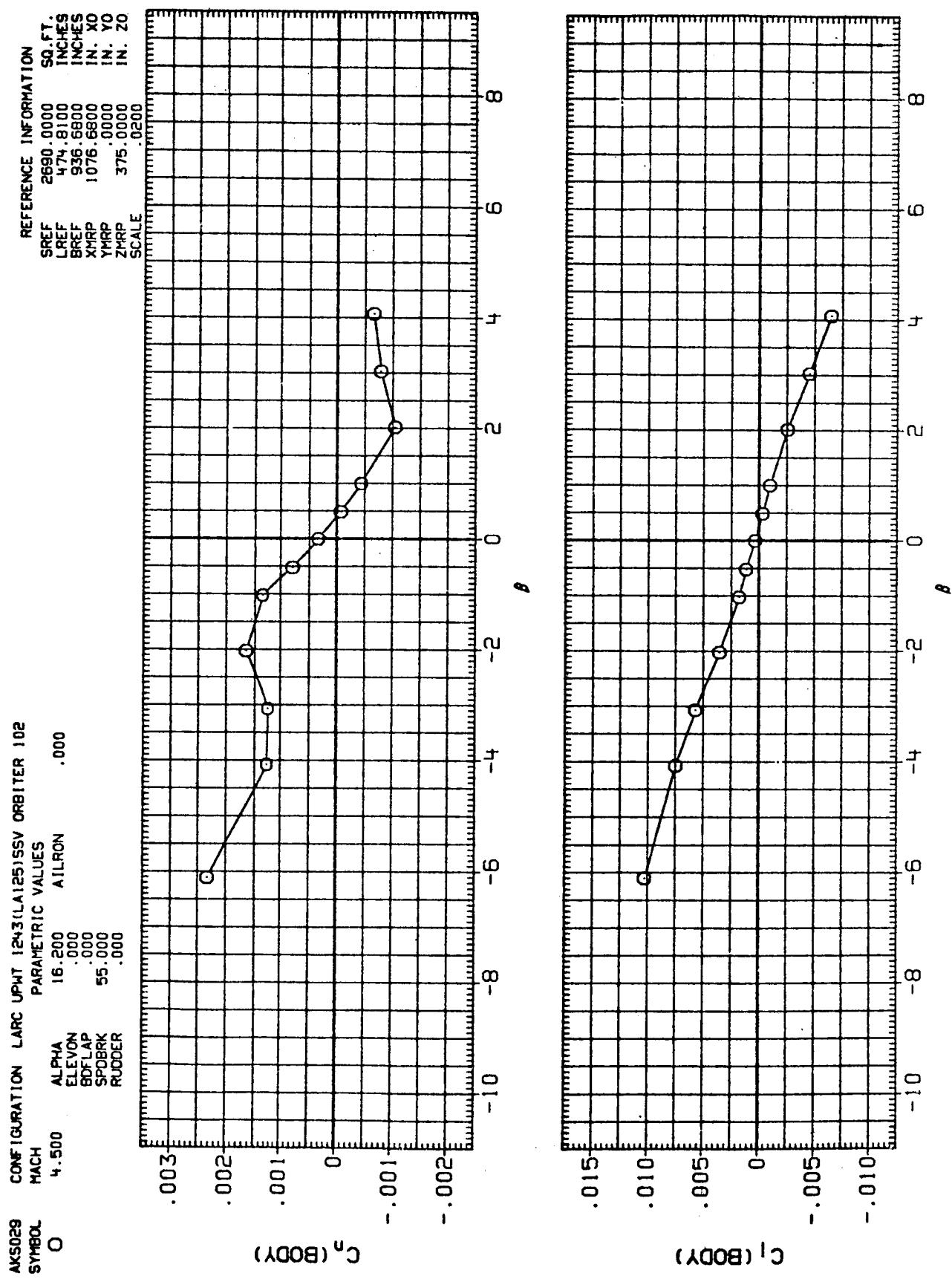


FIGURE 8(T). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 84

AKS030
SYMBOL

CONFIGURATION LARC UPNT 1243(LA125)SSV ORBITER 102
MACH 2.500 ALPHA 15.900 AILRDN .000
ELEVON .0000 BDFLAP .0000 SPDBRK 55.000 RUDDER .0000

REFERENCE INFORMATION

SREF	2890.0000	sq. ft.
LREF	474.8100	inches
BREF	936.6800	inches
XMRP	1076.6800	in.
YMRP	.0000	in.
ZMRP	375.8000	in.
SCAI E	.0200	

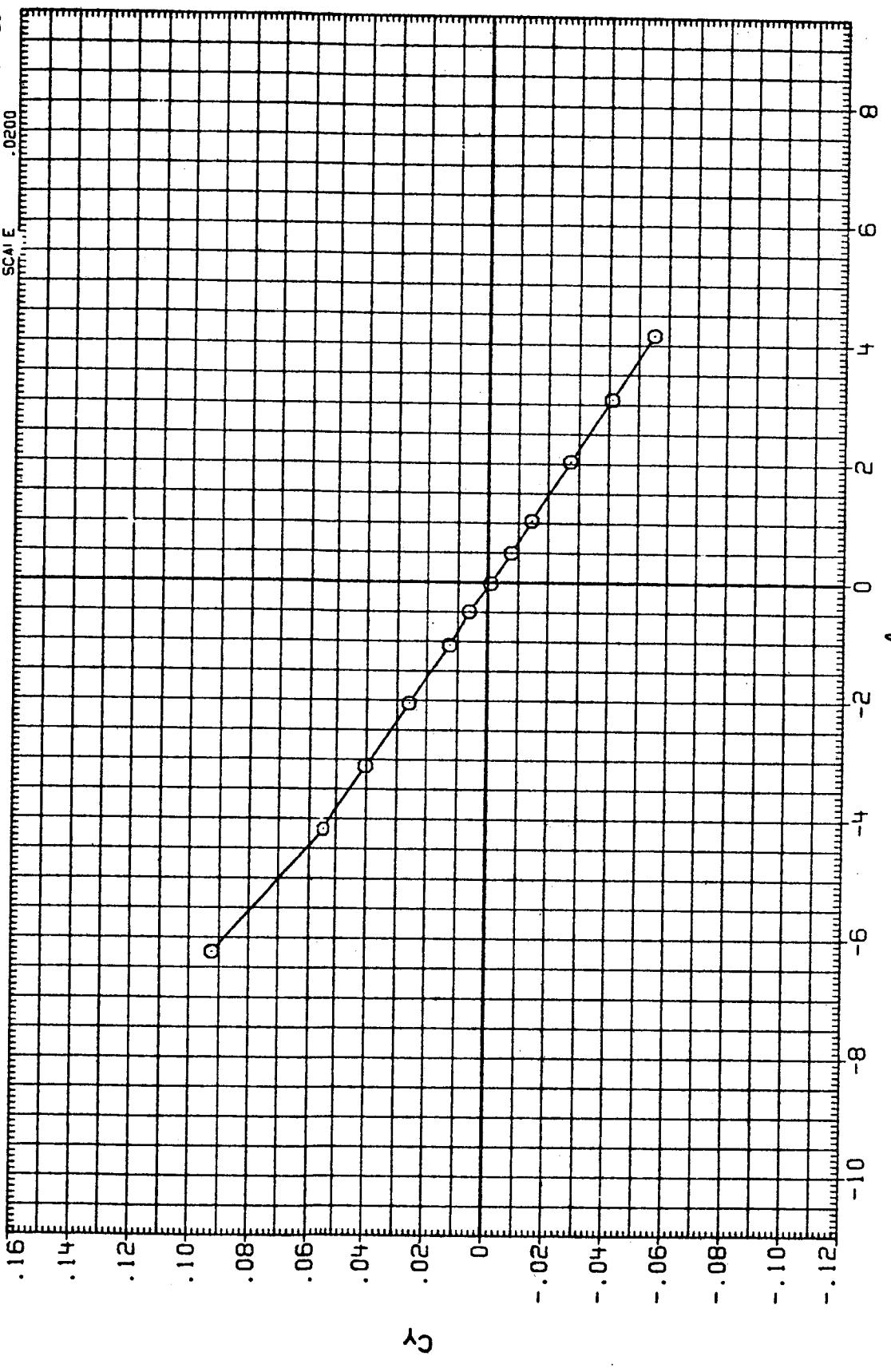


FIGURE 8(U). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.

AKS030 CONFIGURATION LARC UPWT 1243(LA125)SSV ORBITER 102
 MACH 2.500 ALPHA 15.900 AILRDN .000
 ELEVON .000 BDFLAP .000 SPDBRK 55.000
 RUDER .000

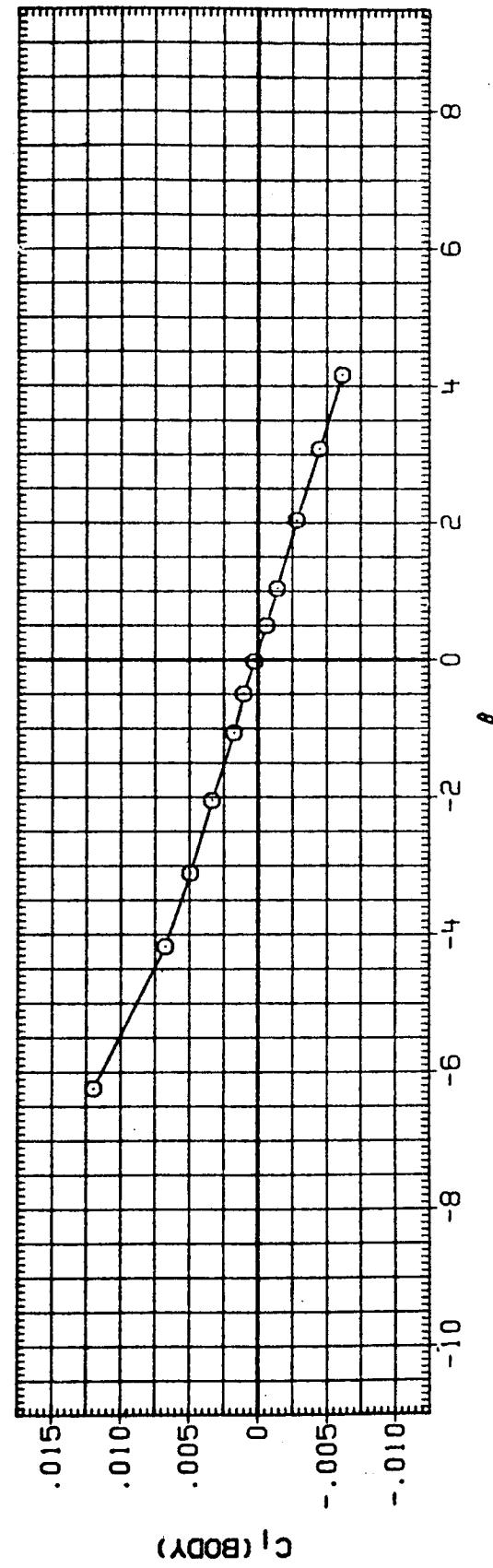
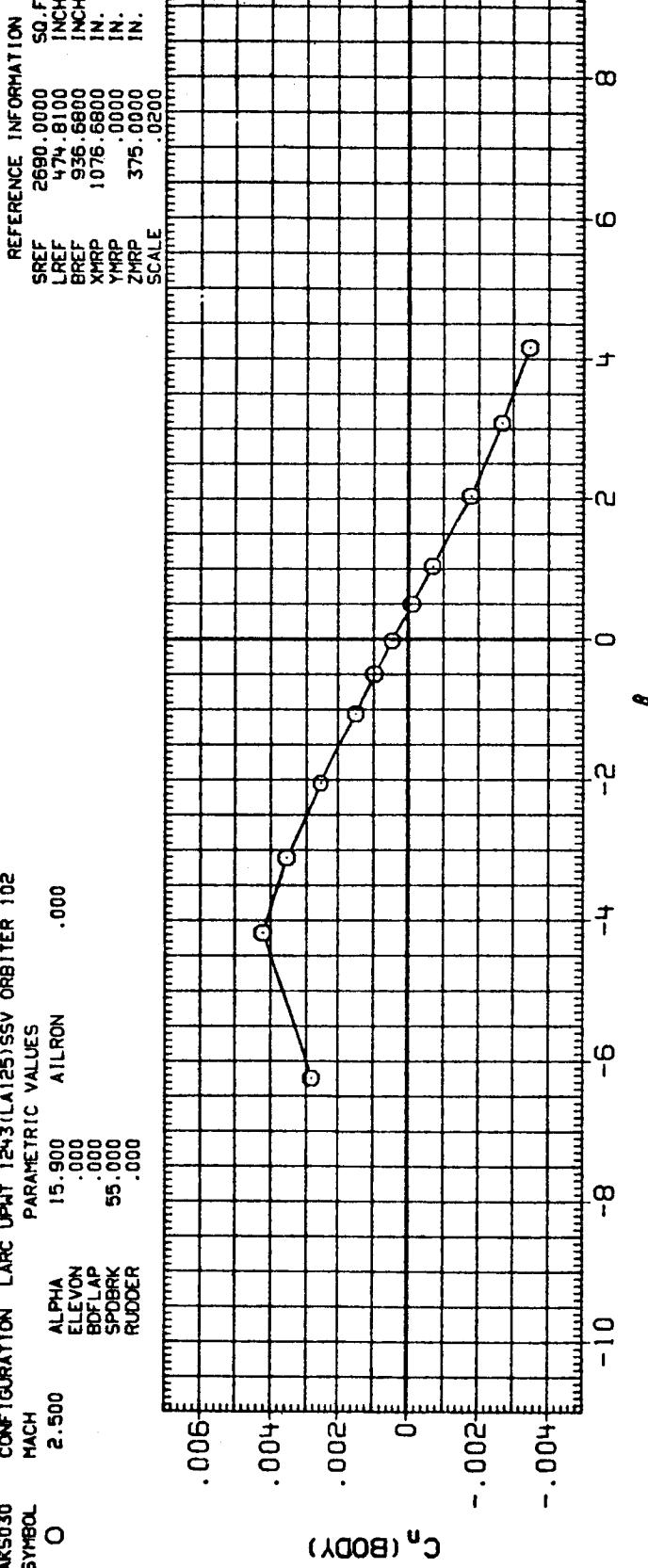


FIGURE 8(U). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55-DEG.
PAGE 86

AKS031
 CONFIGURATION LARC UPNT 1243(LA125)SSV ORBITER 102
 MACH PARAMETRIC VALUES
 SYMBOL MACH ALPHA ELEVON AILRDN
 O 3.000 .000 .000 .000

BOFLAP .000
 SPDBRK 55.000
 RUDDER .000

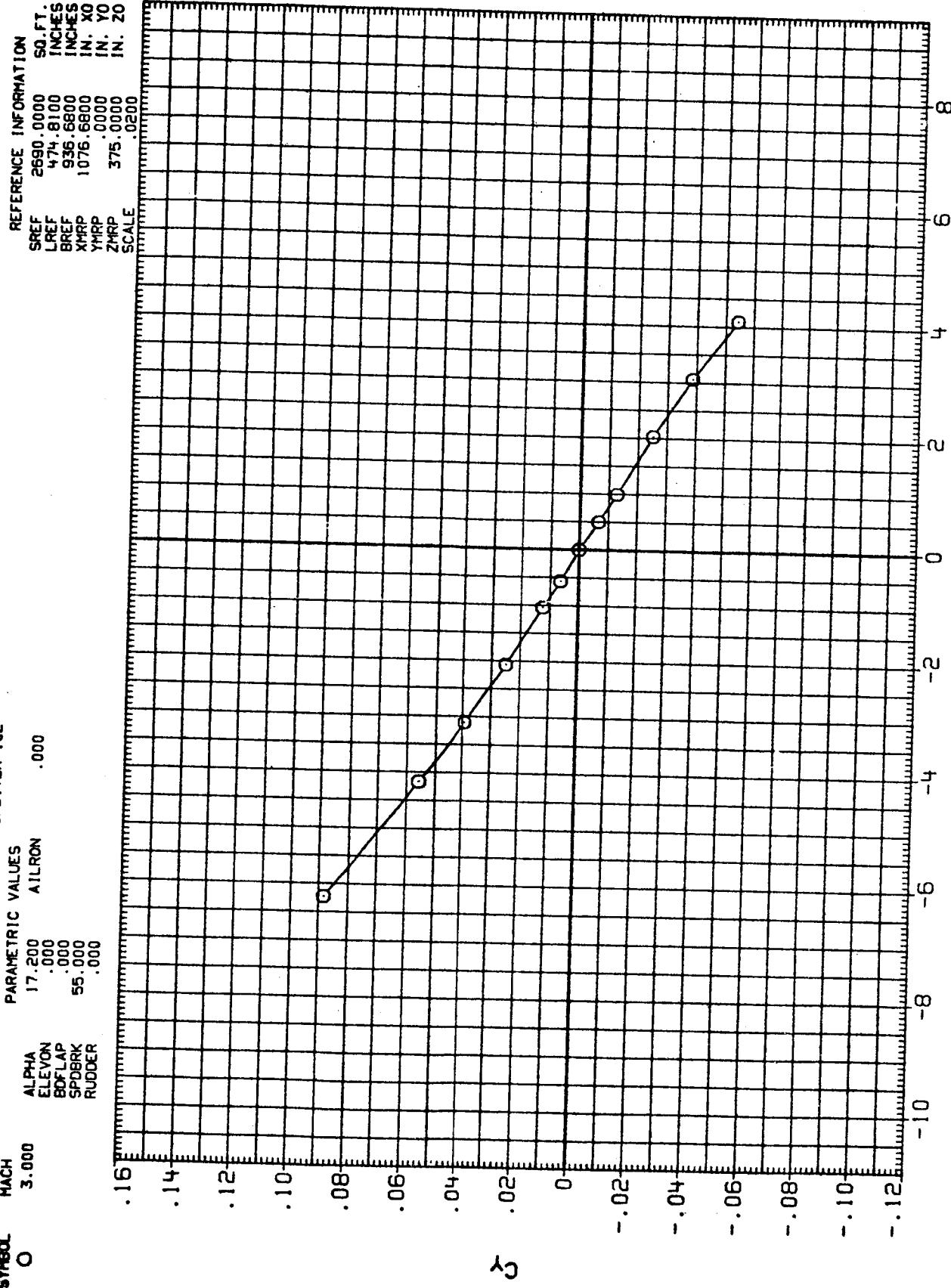


FIGURE 8(V). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE

AKS031 CONFIGURATION LARC UPAT 1243(LA)251SSV ORBITER 102

SYMBOL	MACH	PARAMETRIC VALUES
O	3.000	ALPHA 17.200 AILRDN .000
		ELEVON .000
		BDFLAP .000
		SPDBRK 55.000
		RUDDER .000

REFERENCE INFORMATION

	SQ.FT.	INCHES
SREF	2690.0000	
LREF	.474	.8100
BREF	9.36	.6800
XMRP	1076.	.6800
YMRP	.0000	.0000
ZMRP	375.0000	.0200
SCALE		

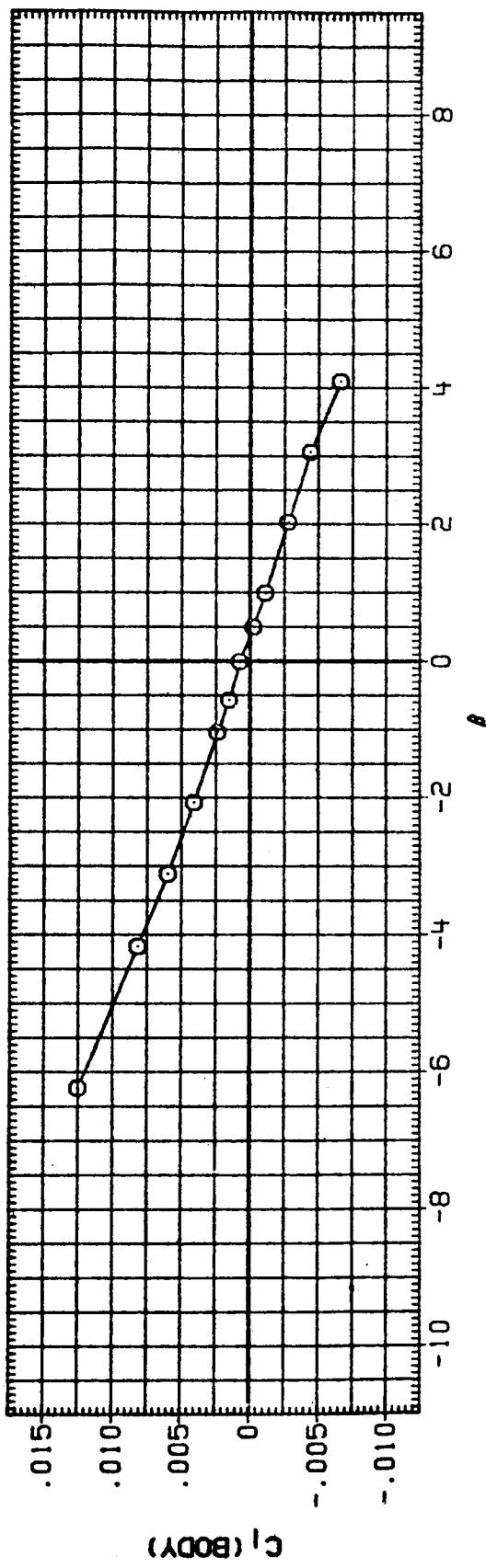
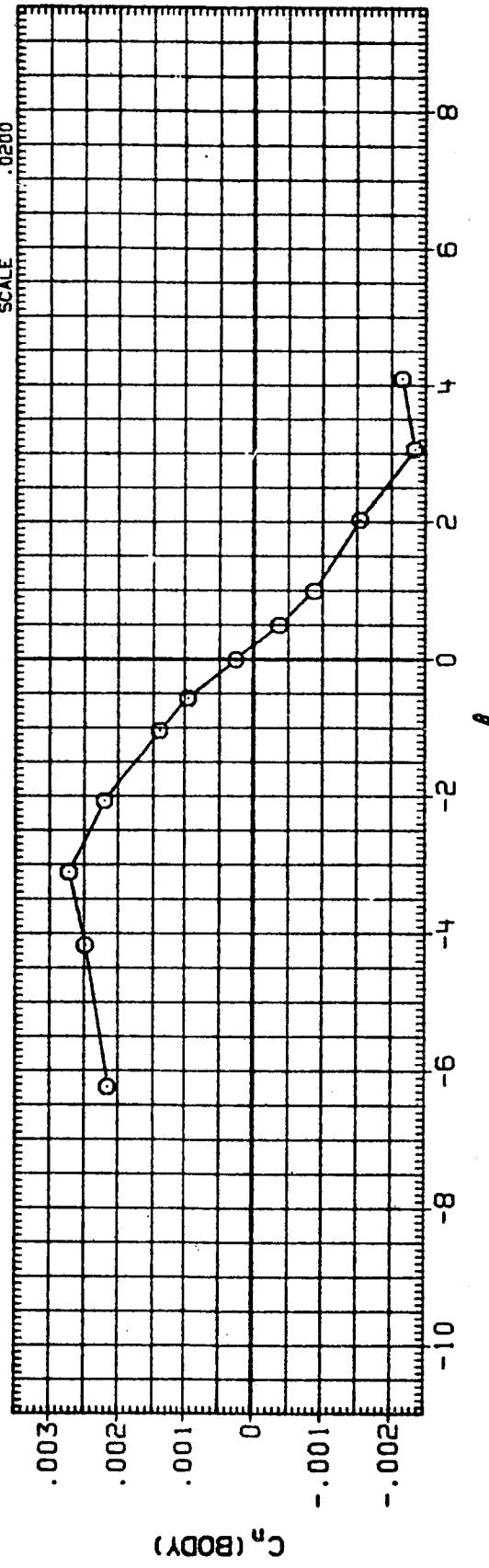


FIGURE 8(V). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 88

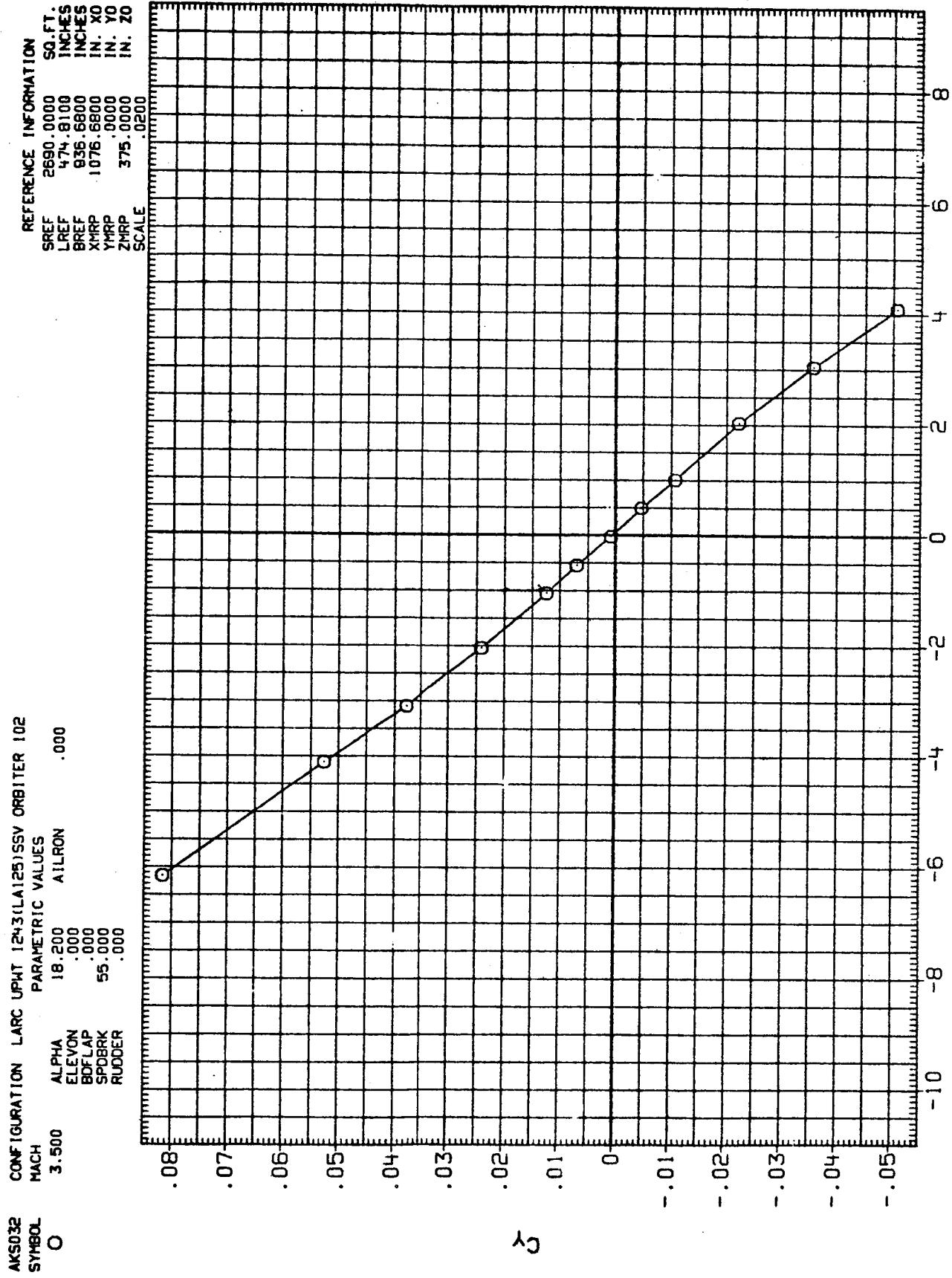


FIGURE 8(W). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP AT 55 DEG.
PAGE 89

AK5032 CONFIGURATION LARC UPTN 1243(LA125)SSV ORBITER 102
 SYMBOL MACH ALPHA ELEVON AILRDN .000
 3.500 .000 .000 .000 .000
 BDFLAP SPD BRK RUDER .000 .000 .000

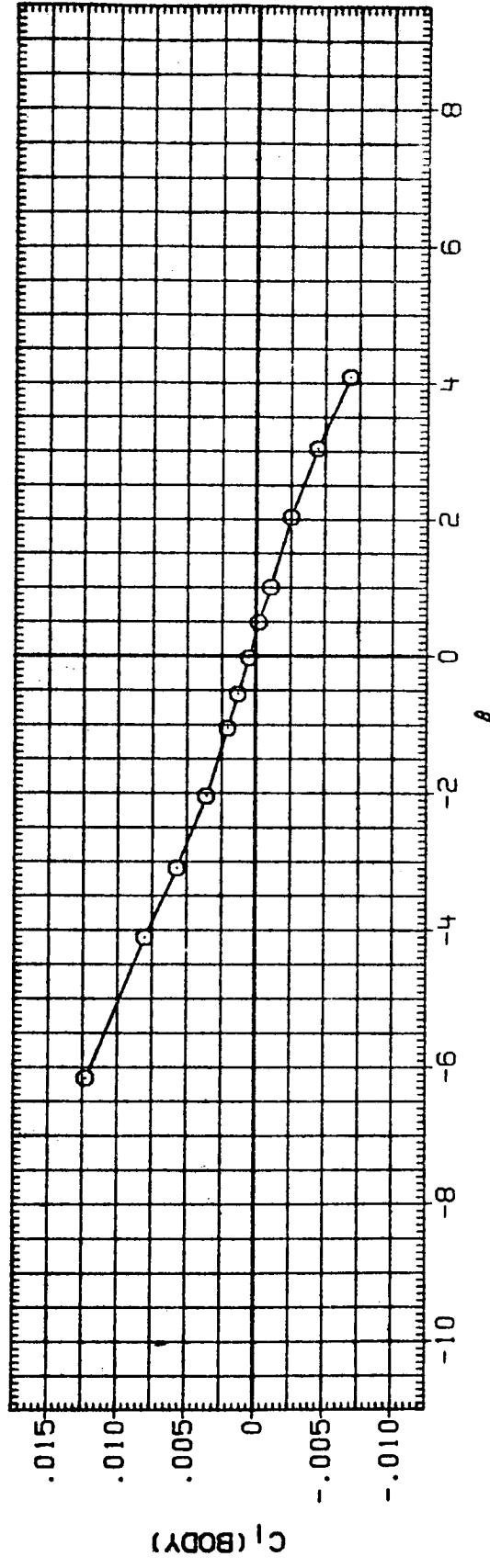
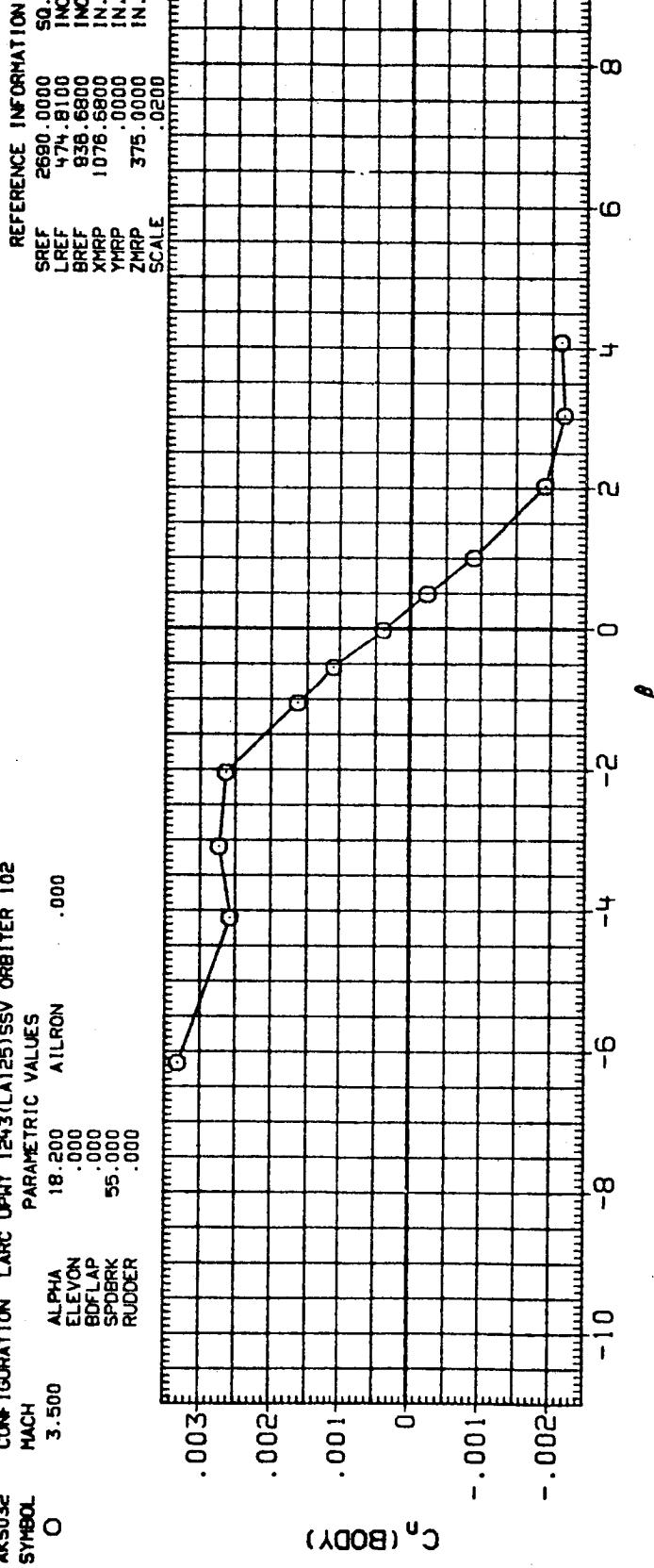


FIGURE 8(W). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 90

AKS033 CONFIGURATION LARC UPAT 124.3(LA125)SSV ORBITER 102
 SYMBOL MACH ALPHA PARAMETRIC VALUES
 O 4.000 19.000 AILRON .000
 ELEVON .000
 BDFLAP .000
 SPOBRK 55.000
 RUDDER .000

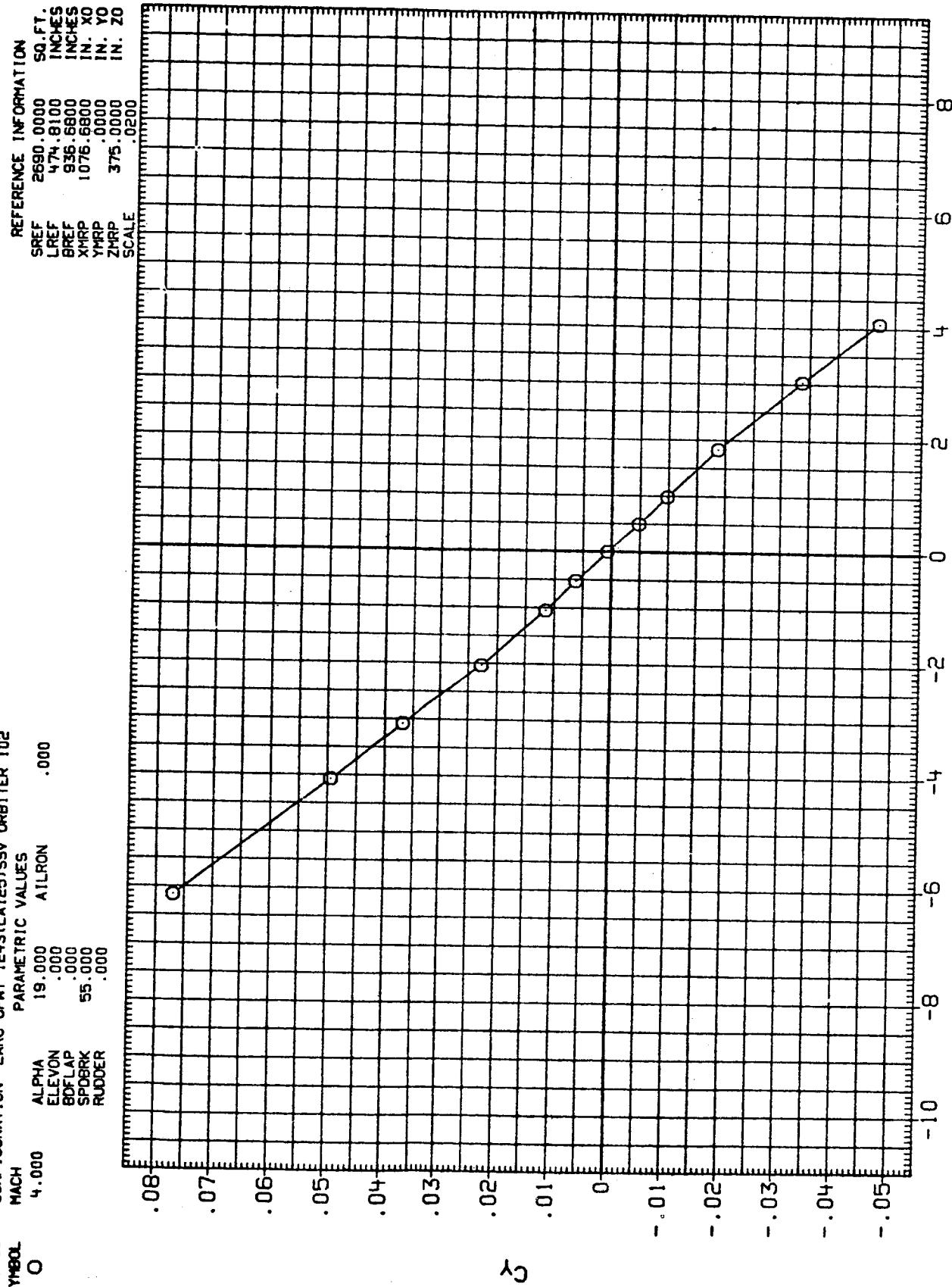


FIGURE 8(X). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 5.5 DEG.
 PAGE 91

AKS033 CONFIGURATION LARC UPWT 1243(LA)25)SSV ORBITER 102
 SYMBOL MACH ALPHA 19.000 AIRRON .000
 O ELEVON .000
 BDF LAP .000
 SPDBRK 55.000
 RUDDER .000

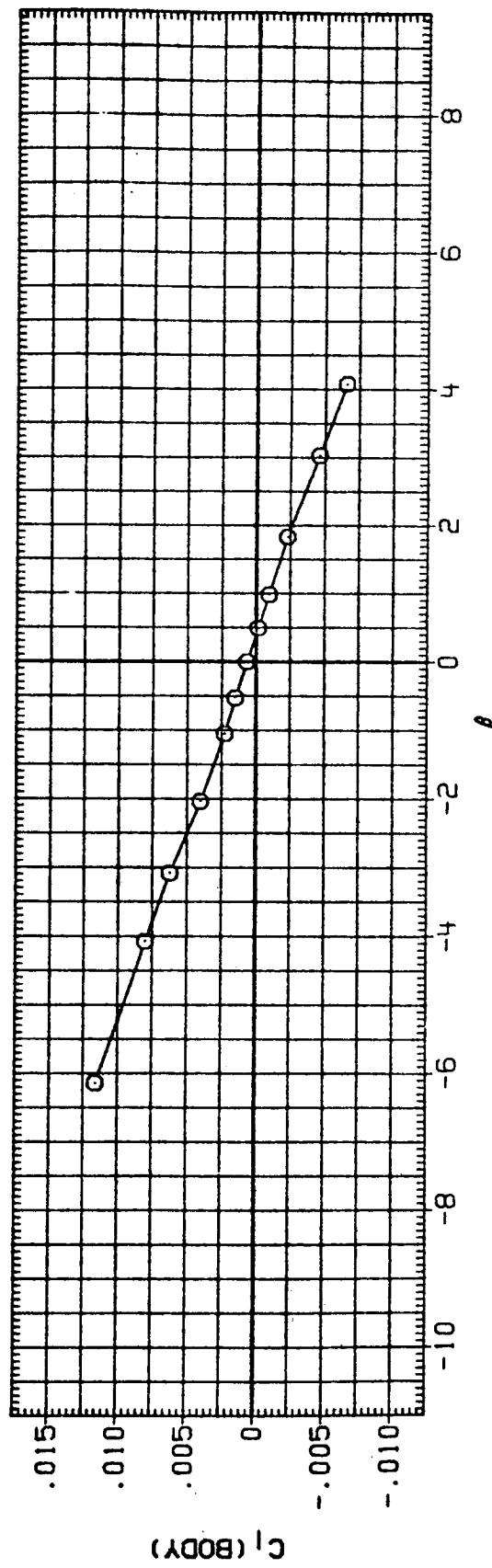
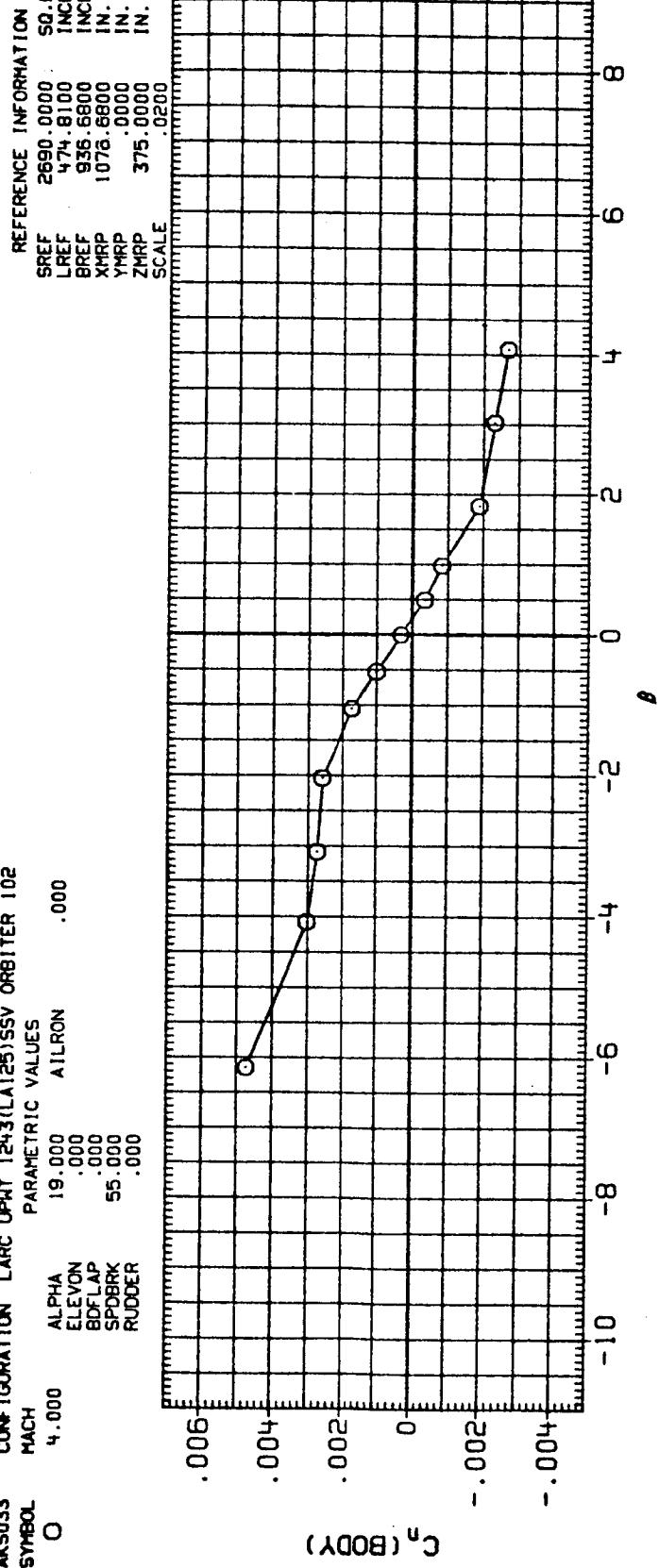


FIGURE 8(X). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
 PAGE 92

AK5034
CONFIGURATION

LARC UPWT 1243(LA125)SSV ORBITER 102
PARAMETRIC VALUES
MACH 4.500 ALPHA 20.000 AILRDN .000
ELEVON .000 BDFLAP .000 SPDBRK 55.000 RUDDER .000

REFERENCE INFORMATION

SREF	2690.0000	SQ.FT.
LREF	.474	.8100 INCHES
BREF	.936	.6800 INCHES
XMRP	1076	.6800 IN. X0
YMRP	.0000	IN. Y0
ZMRP	.375	.0000 IN. Z0
SCALE	.0200	

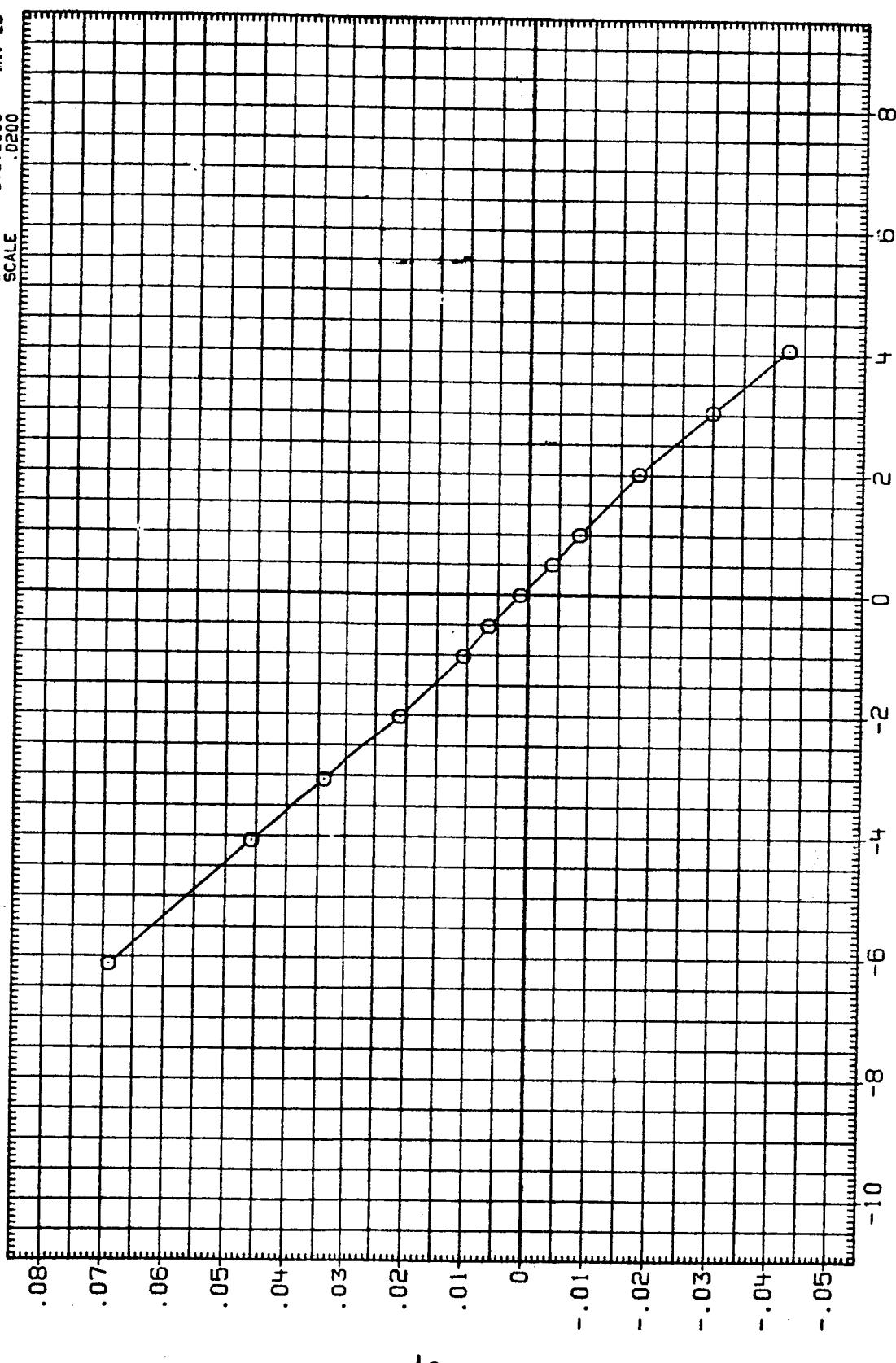


FIGURE 8(Y). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 93

AKS034 CONFIGURATION LARC UPNT 1243(LA125)SSV ORBITER 102
 MACH 4.500 ALPHA 20.000 ALRDN .000
 ELEVON .000 BDFLAP .000
 SPOBRK 55.000 RUDDER .0000

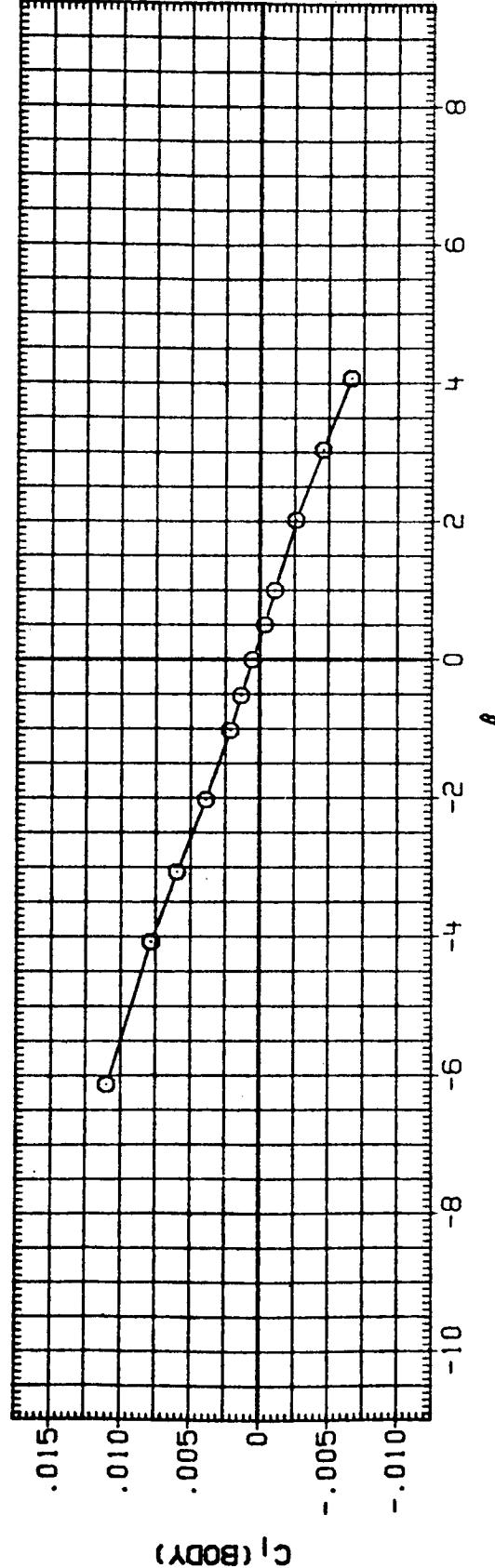
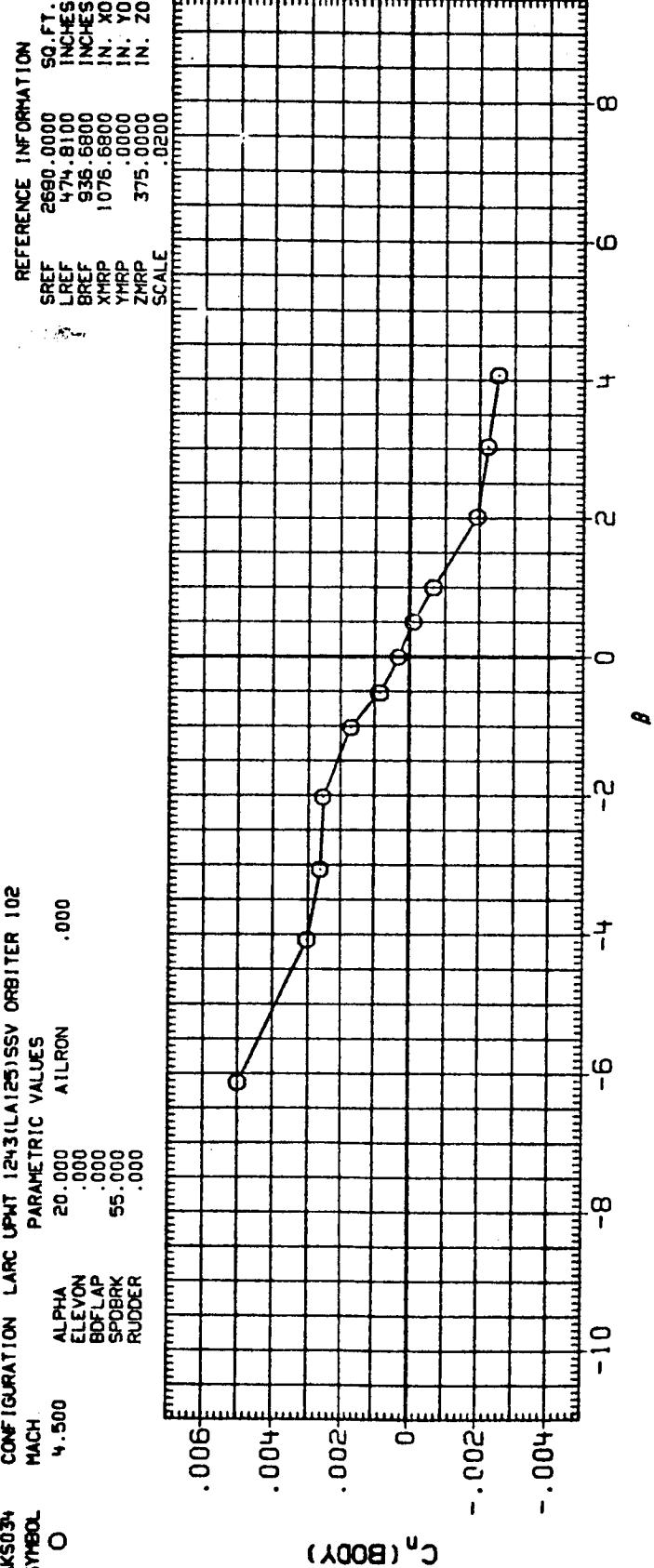


FIGURE 8(Y). ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 55 DEG.
PAGE 94

AKS035 CONFIGURATION LARC UPNT 1243(LA125)SSV ORBITER 102
 MACH 4.500 ALPHA 16.200 AILRON .000
 ELEVON .000 BDFLAP .000 SPDBRK 87.200 RUDDER .000

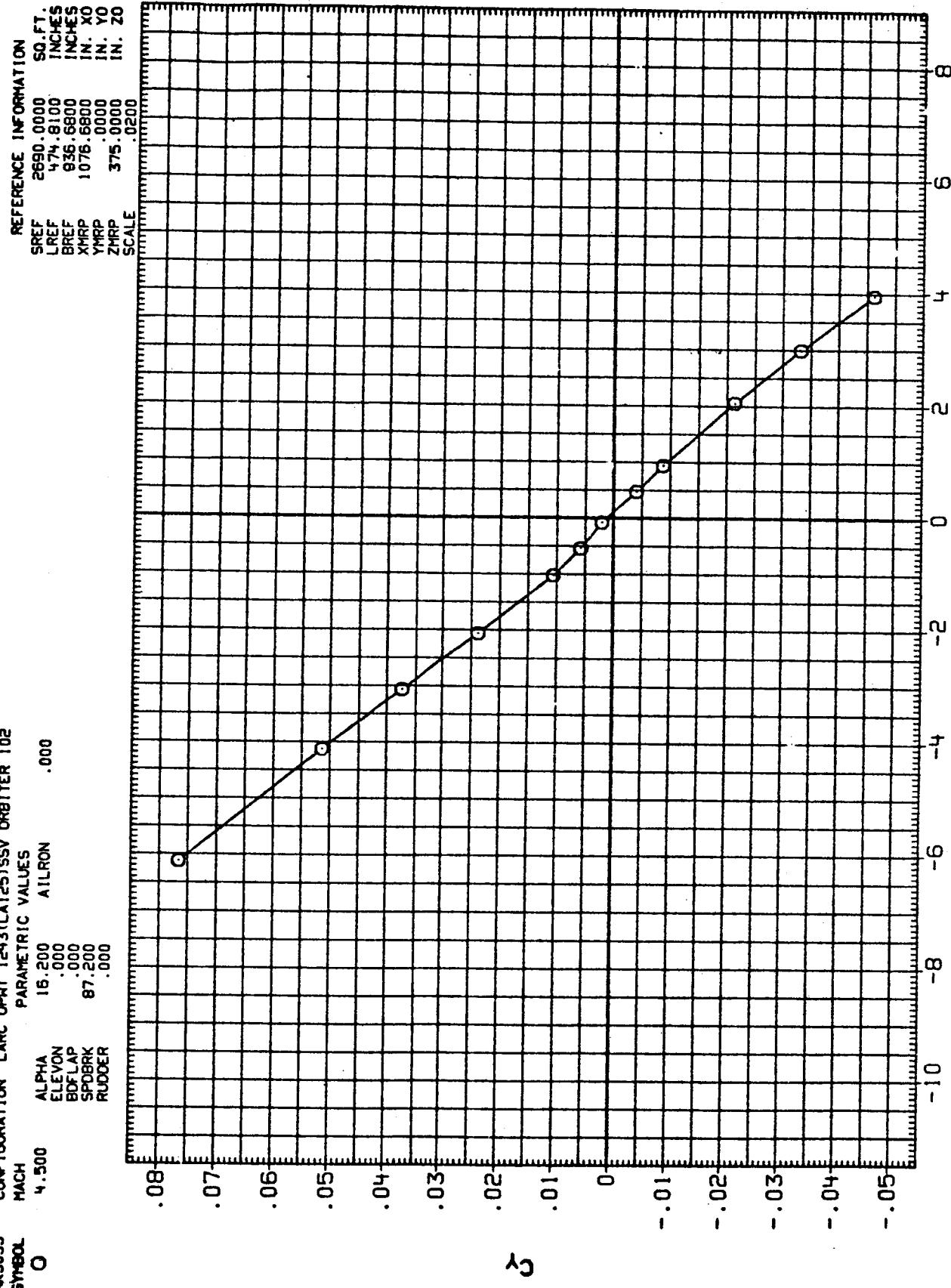


FIGURE 9. ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 87.2 DEG.
PAGE 95

AKS035 CONFIGURATION LARC UPWT 1243(LA125)SSV ORBITER 102

PARAMETRIC VALUES

SYMBOL	MACH	ALPHA	AIRRON	.000
O	4.500	.000	ELEVON	16.200
		.000	BDFLAP	.000
		.000	SPDBRK	87.200
		.000	RUDDER	.000

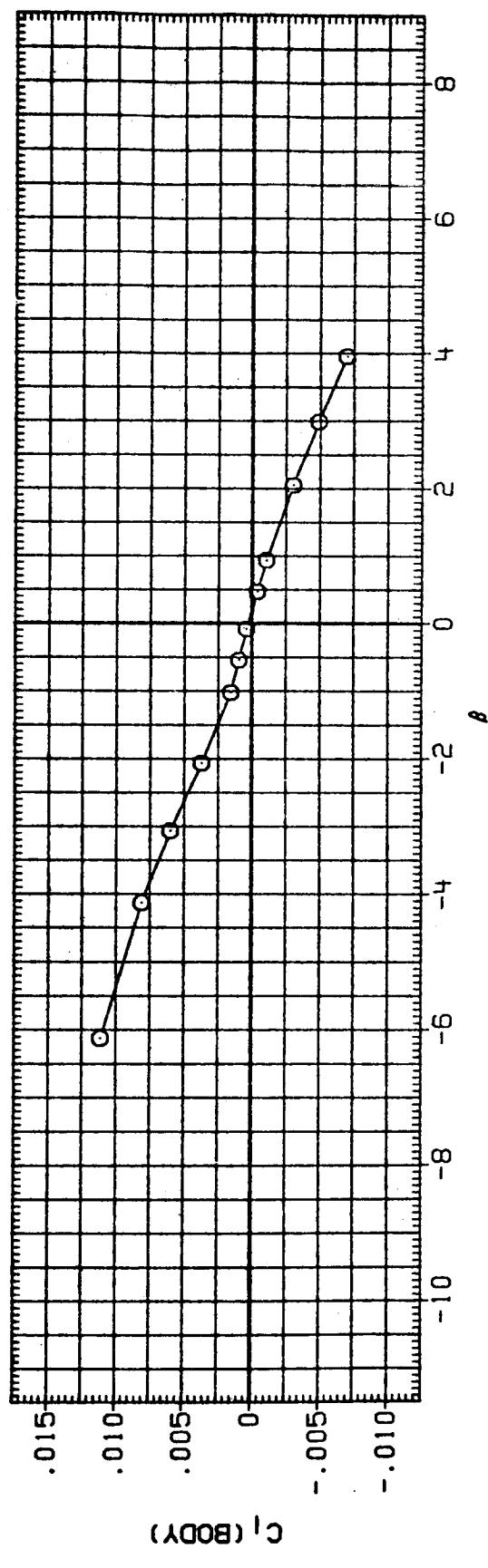
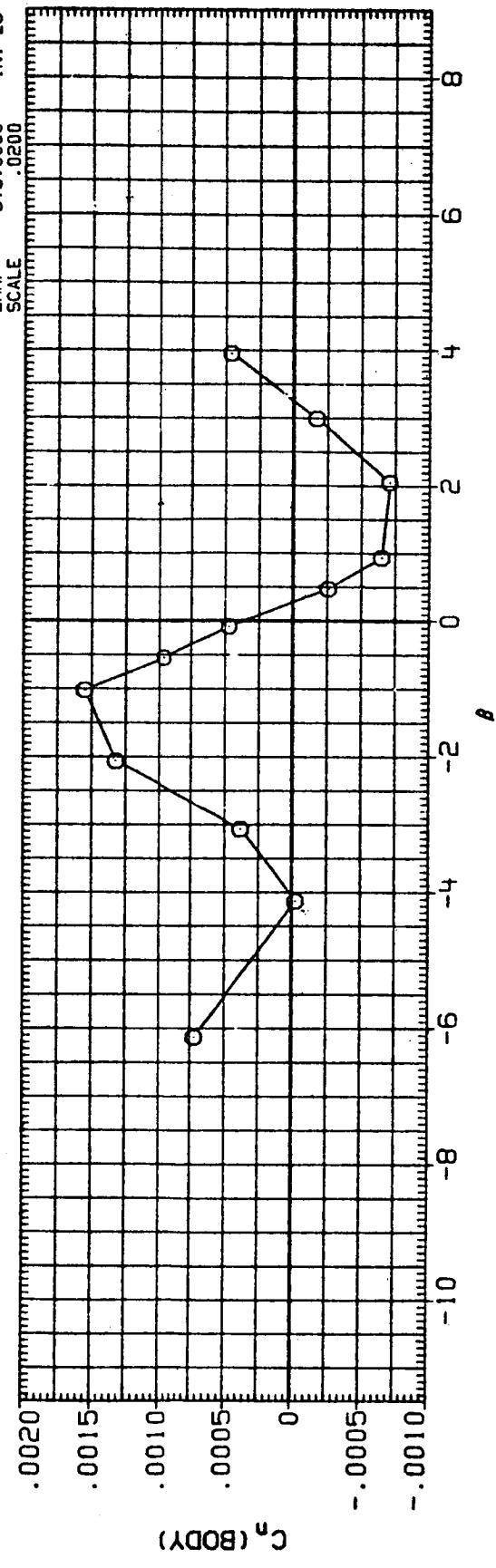


FIGURE 9. ORBITER AERODYNAMIC CHARACTERISTICS IN SIDESLIP SPEED BRAKE AT 67.2 DEG.
PAGE 96

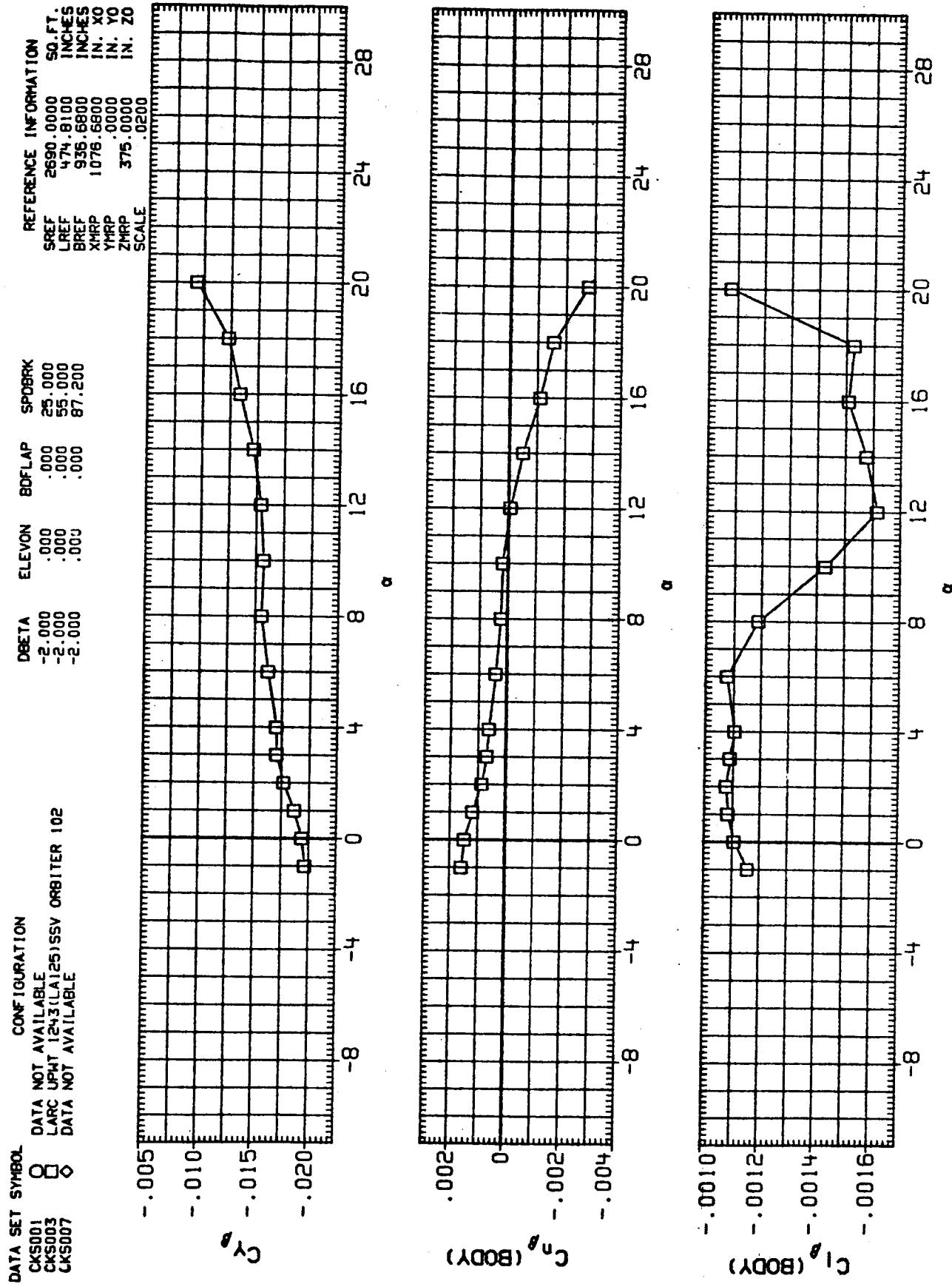


FIGURE 10. ORBITER LATERAL-DIRECTIONAL STABILITY CHARACTERISTICS

(A)MACH = 2.50

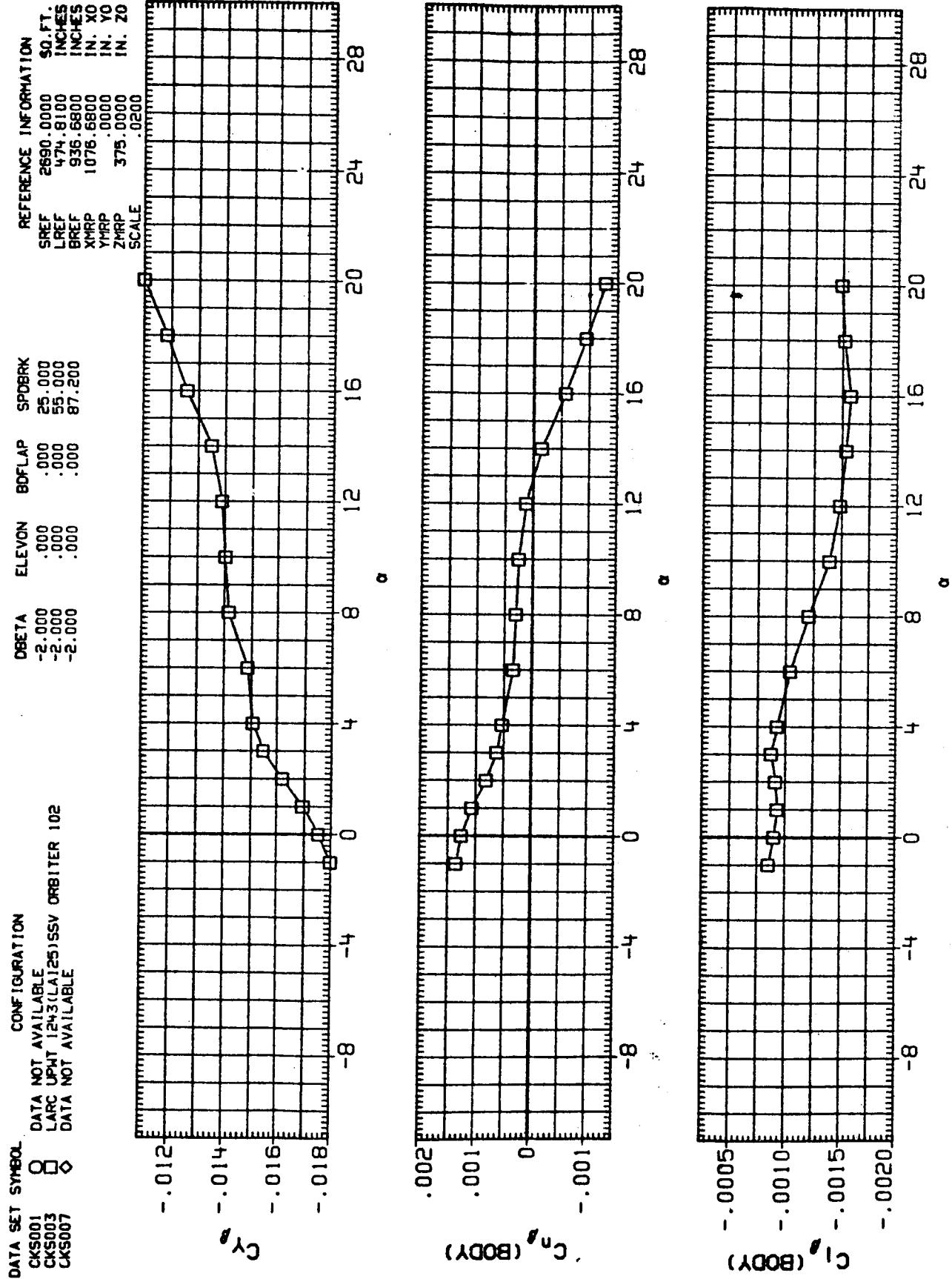


FIGURE 10. ORBITER LATERAL-DIRECTIONAL STABILITY CHARACTERISTICS

(B) MACH = 3.00

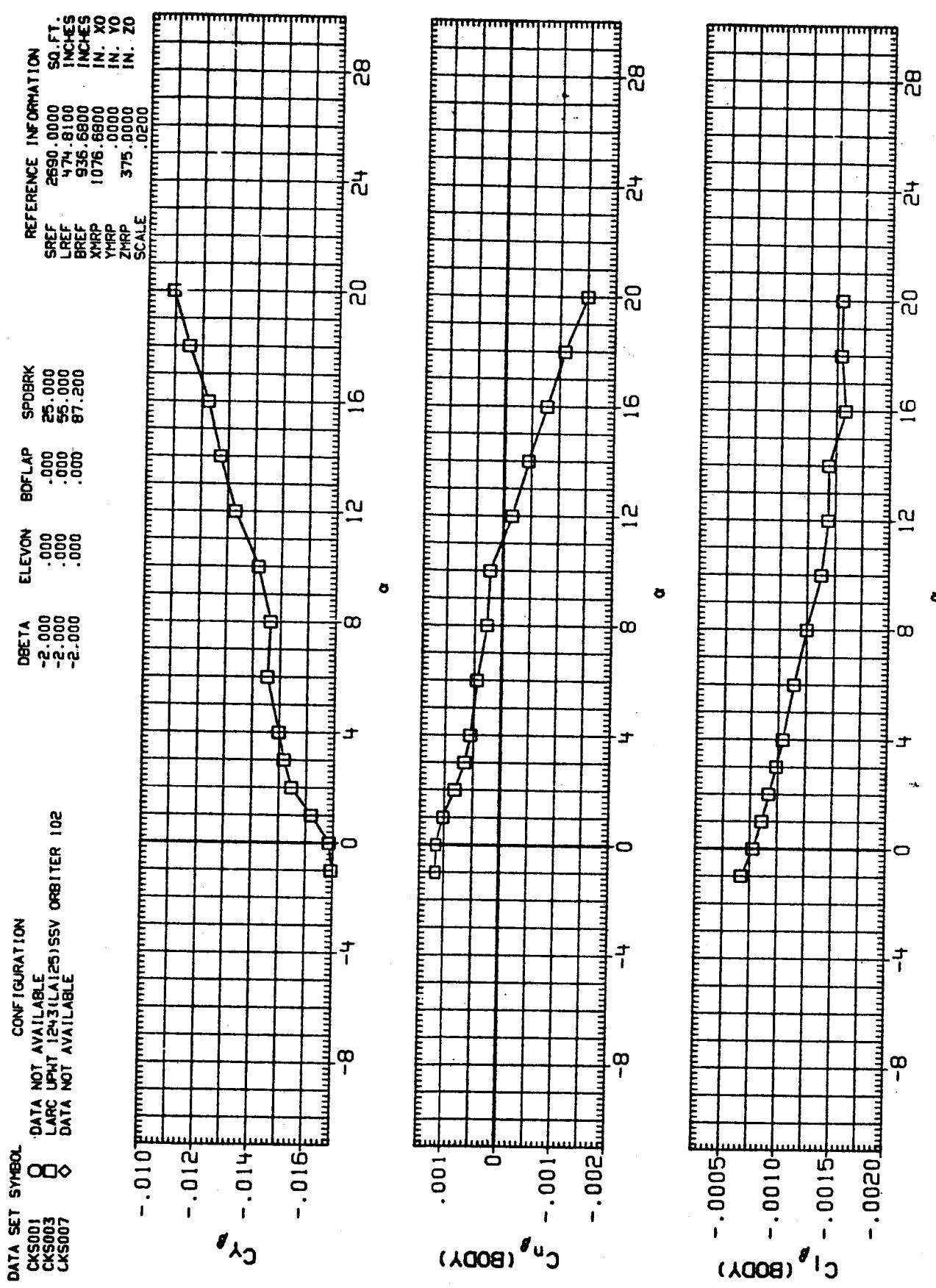


FIGURE 10. ORBITER LATERAL-DIRECTIONAL STABILITY CHARACTERISTICS

(C)MACH = 3.50

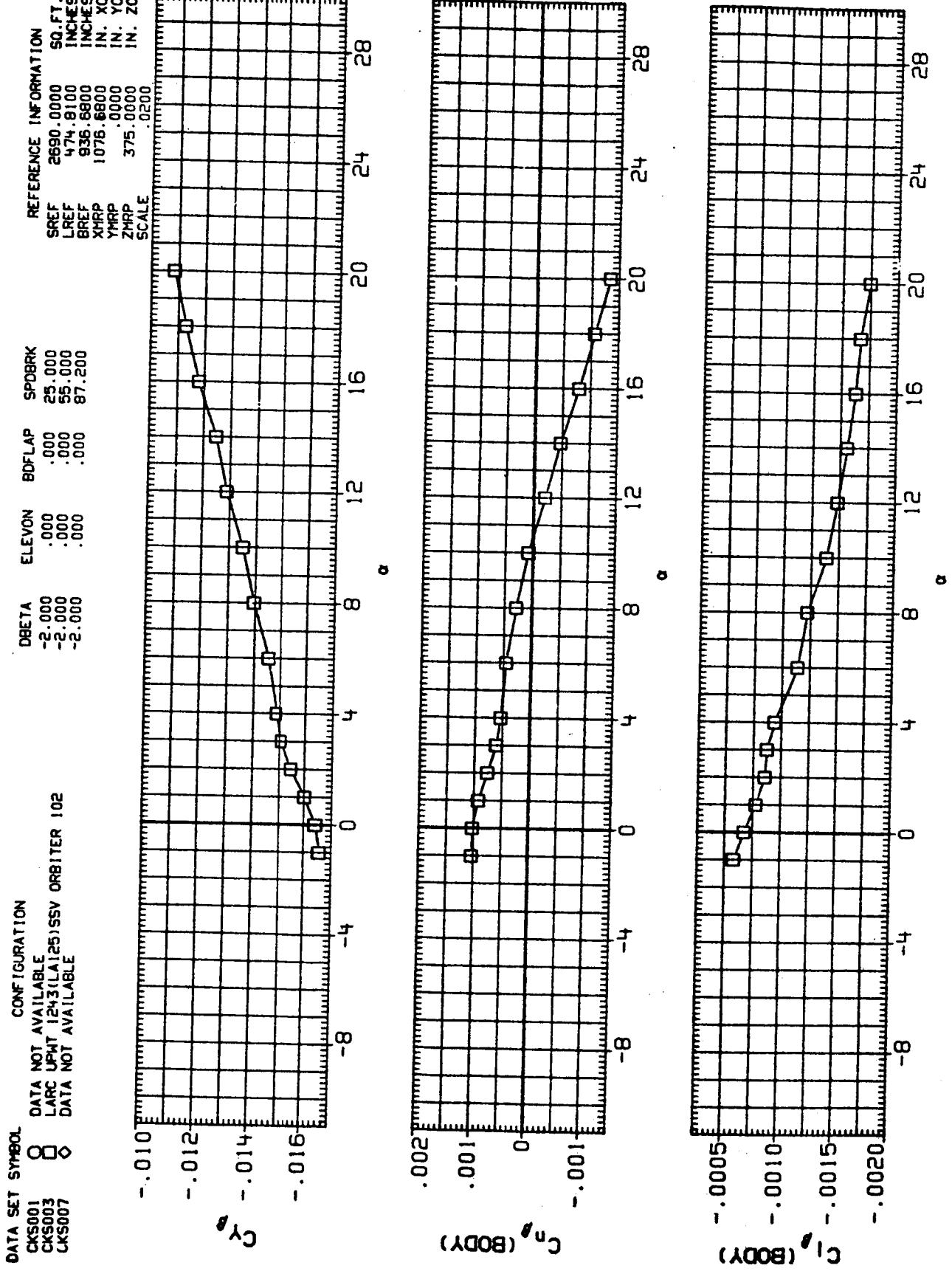


FIGURE 10. ORBITER LATERAL-DIRECTIONAL STABILITY CHARACTERISTICS
(D) MACH = 4.00

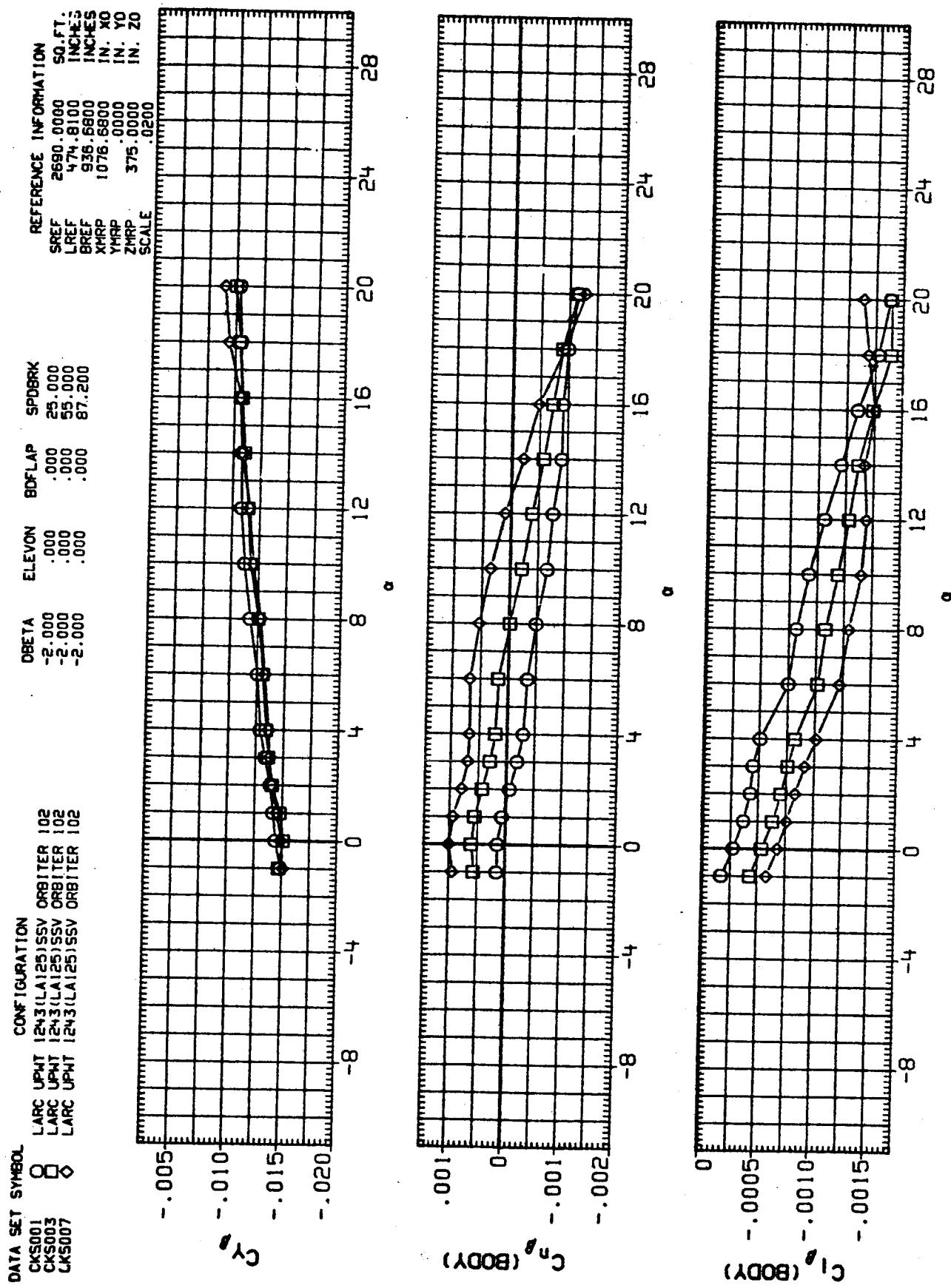


FIGURE 10. ORBITER LATERAL-DIRECTIONAL STABILITY CHARACTERISTICS
(E)MACH = 4.50

APPENDIX

TABULATED SOURCE DATA

Tabulations of plotted data are available from Data Management Services on request.

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	XO	
LREF	.474.8100	INCHES	YMRP	=	.0000	IN.	YO	
BREF	936.6800	INCHES	ZMRP	=	375.0000	IN.	ZO	
SCALE	.0200							

MACH	ALPHA	RUN NO.	46/ 0	RNL =	2.00	GRADIENT INTERVAL =	-5.00/	5.00	
4.500	-1.256	2.02453	.07565	.09378	-.02238	-.00030	.00077	-.03021	
4.500	.292	2.02399	-.04574	.09110	-.02030	-.00062	.00065	-.02946	
4.500	1.997	2.02304	-.00892	.08725	-.01900	-.00083	.00029	-.02779	
4.500	3.653	2.02208	.02743	.08389	-.01916	-.00097	-.00021	-.02577	
4.500	5.325	2.02198	.06461	.08078	-.01769	-.00133	-.00032	-.02543	
4.500	6.861	2.02111	.10169	.07917	-.01696	-.00160	-.00026	-.02496	
4.500	8.527	2.02058	.14399	.07781	-.01681	-.00156	-.00069	-.02349	
4.500	10.081	2.02077	.18548	.07637	-.01709	-.00176	-.00092	-.02305	
4.500	11.556	2.02030	.22644	.07544	-.01720	-.00195	-.00102	-.02248	
4.500	13.122	2.02048	.27135	.07471	-.01704	-.00212	-.00125	-.02206	
4.500	14.733	2.02036	.32012	.07421	-.01705	-.00230	-.00136	-.02175	
4.500	16.106	2.02063	.36443	.07347	-.01760	-.00251	-.00147	-.02171	
4.500	17.708	2.02093	.41582	.07297	-.01828	-.00277	-.00160	-.02164	
4.500	19.117	2.02122	.46329	.07248	-.01929	-.00293	-.00177	-.02144	
4.500	20.674	2.02129	.51866	.07229	-.02028	-.00280	-.00217	-.02047	
	GRADIENT	-.00051	.02111	-.00204	-.00085	-.00013	-.00020	-.00091	

(IRKS002) (21 JUL 81)

PAGE 2

PARAMETRIC DATA

BETA	=	2.000	ELEVON	=	.000
BDFLAP	=	.000	SPDBRK	=	.000
RUDDER	=	.000	AILRON	=	.000

DATE 21 JUL 81

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LARC UPWT 1243(LA)25)SSY ORBITER 102

REFERENCE DATA

AIRCRAFT DATA					
SREF	2690.00000	SQ.FT.	XMRP	=	1076.6800 IN.
LREF	474.81000	INCHES	YMRP	=	XO .0000 IN.
BREF	936.68000	INCHES	ZMRP	=	YO .0000 IN.
SCALE	.0200				ZO .0000 IN.
BETA					.000
BDFLAP					.000
RUDDER					.000
SPDBRK					.000
AILRDN					.000

PAGE 3
(RKS003) (21 JUL 81)

PARAMETRIC DATA

BETA	.000	ELEVON	.000
BOFLAP	.000	SPDBRK	.000
RUDDER	.000	AIRRON	.000

✓ 5.00

- .00139	- .06535	- .02796	- .00950	- .00106	- .00119	- .00040	- .00035	- .00050	- .00065	- .00037	- .00017	- .00004	- .00035	- .00023	- .00014	- .00036	- .00013											
	- .49325	- .21668	- .07070	- .36269	- .63281	- .13251	- .12895	- .12759	- .12829	- .13011	- .13357	- .13932	- .14697	- .15653	- .16821	- .18055	- .19539	- .21132	- .23054	- .22963	- .00041							
						- .49325	- .21668	- .07070	- .36269	- .63281	- .13251	- .12895	- .12759	- .12829	- .13011	- .13357	- .13932	- .14697	- .15653	- .16821	- .18055	- .19539	- .21132	- .23054	- .22963	- .00041		
							- .49325	- .21668	- .07070	- .36269	- .63281	- .13251	- .12895	- .12759	- .12829	- .13011	- .13357	- .13932	- .14697	- .15653	- .16821	- .18055	- .19539	- .21132	- .23054	- .22963	- .00041	
								- .49325	- .21668	- .07070	- .36269	- .63281	- .13251	- .12895	- .12759	- .12829	- .13011	- .13357	- .13932	- .14697	- .15653	- .16821	- .18055	- .19539	- .21132	- .23054	- .22963	- .00041

CD	CL	CD	CL	L/D
.00160	.06667	.000160	.2084	-.55176
-.00151	-.03348	-.00151	.11723	-.28556
-.00168	-.00364	-.00168	.11581	.03144
-.00157	.03729	-.00157	.11575	.32214
-.00120	.07318	-.00120	.11671	.62700
-.00079	.1995	-.00079	.11999	.91622
-.00122	.14827	-.00122	.12620	.1.17482
-.00100	.18613	-.00100	.13450	.1.38392
-.00119	.22503	-.00119	.14501	.1.55179
-.00098	.26281	-.00098	.15725	.1.67125
-.00118	.30247	-.00118	.17178	.1.76081
-.00064	.33935	-.00064	.18724	.1.81236
-.00084	.37962	-.00084	.19551	.1.88721
-.00094	.41843	-.00094	.22535	.1.86576
-.00104	.45532	-.00104	.24616	.1.84968
.00005	.02447	.00005	.00069	.20703

DATE 21 JUL 81

LAI125 (LARC UPNT 1243)

LARC UPNT 1243(LAI125)SSV ORBITER 102

REFERENCE DATA

SREF	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	X0	BETA	=	.000	ELEVON	=	.000
LREF	474.8100	INCHES	YMRP	=	.0000	IN.	Y0	BDFLAP	=	.000	SPDBRK	=	.000
BREF	936.6800	INCHES	ZMRP	=	375.0000	IN.	Z0	RUDDER	=	.000	AIRRON	=	.000
SCALE	.0200												
MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CD	L/D			
3.500	-1.277	.00210	-.07728	.10915	-.00992	.00023	.00018	-.00147	-.07483	-.67508			
3.500	.242	.00020	-.04170	.10638	-.00911	.00025	.00015	-.00130	-.04214	.39618			
3.500	1.785	.00179	-.00592	.10448	-.00798	.00026	.00019	-.00129	-.00917	.08795			
3.500	3.289	.00043	.03158	.10219	-.00701	.00024	.00019	-.00050	.02567	.10383			
3.500	4.804	.00027	.00027	.06903	.09901	-.00686	.00023	.00012	-.00024	.06050	.10444		
3.500	6.262	-.00011	.00011	.10896	.09700	-.00696	.00023	.00013	-.00007	.09773	.10831		
3.500	7.708	-.00054	.00054	.14989	.09584	-.00703	.00032	.00023	-.00009	.13568	.11508		
3.500	9.138	-.00148	.00148	.19136	.09482	-.00770	.00031	.00021	-.00046	.17387	.12400		
3.500	10.552	-.00112	.00112	.23321	.09385	-.00823	.00033	.00022	-.00022	.21208	.13497		
3.500	11.958	-.00129	.00129	.27664	.09297	-.00879	.00037	.00030	-.00008	.25137	.14827		
3.500	13.373	-.00180	.00180	.32136	.09181	-.00963	.00037	.00035	-.00023	.29141	.16365		
3.500	14.762	-.00201	.00201	.36652	.09026	-.01072	.00042	.00040	-.00019	.33142	.18067		
3.500	16.139	-.00270	.00270	.41137	.08879	-.01214	.00051	.00048	-.00035	.37048	.19984		
3.500	17.495	-.00218	.00218	.45636	.08748	-.01370	.00055	.00041	-.00022	.40895	.22063		
3.500	18.841	-.00251	.00251	.50360	.08624	-.01573	.00058	.00038	-.00015	.44877	.24426		
	GRADIENT	-.00022		.02406	-.00161	-.00054	-.00000	-.00001		.02225	-.00100		
	RUN NO.	25 / 0	RN/L	2	0.0	GRADIENT INTERVAL =	-5.00/	5.00					
MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D		
4.000	-1.284	-.00306	-.07897	.10252	-.01225	.00024	.00031	.00135	-.07665	.10426	.73517		
4.000	.331	-.00308	-.04493	.09906	-.01153	.00021	.00028	.00144	-.04550	.09880	.46057		
4.000	1.929	-.00314	-.01085	.09724	-.01054	.00019	.00031	.00143	-.01411	.09682	.14577		
4.000	3.502	-.00338	-.02553	.09495	-.00957	.00017	.00021	.00185	-.00633	.0968	.20432		
4.000	5.052	-.00355	.06162	.09213	-.00907	.00023	.00018	.0018	-.05326	.09720	.54799		
4.000	6.562	-.00342	.01346	.09011	-.00927	.00025	.00025	.00177	.09039	.10110	.89407		
4.000	8.090	-.00357	.14217	.08920	-.00920	.00030	.00025	.00183	.12820	.10832	.18349		
4.000	9.585	-.00312	.18308	.08782	-.00949	.00044	.00015	.00177	.16590	.11708	.41695		
4.000	11.059	-.00353	.22579	.08702	-.00958	.00046	.00030	.00162	.20491	.12871	.59196		
4.000	12.527	-.00314	.26905	.08622	-.01025	.00040	.00035	.00123	.24394	.14253	.71154		
4.000	13.959	-.00326	.31462	.08538	-.01115	.00047	.00022	.00159	.28473	.15876	.79350		
4.000	15.417	-.00347	.36179	.08415	-.01196	.00047	.00036	.00133	.32640	.17730	.84095		
4.000	16.819	-.00343	.40779	.08274	-.01308	.00058	.00033	.00138	.36641	.19719	.85811		
4.000	18.230	-.00342	.08143	.08145	-.01415	.00060	.00037	.00124	.40726	.21986	.85235		
4.000	19.617	-.00332	.50421	.08021	-.01530	.00073	.00032	.00131	.44801	.24483	.82986		
	GRADIENT	-.00006	.02178	-.00154	-.00057	-.00002	-.00001		.02008	-.00162	-.00009		

(RKS003) (21 JUL 81)

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(RKS003) (21 JUL 81)

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF =	2690.0000	SQ.FT.	XMRP =	1076.6800	IN. X0
LREF =	474.8100	INCHES	YMRP =	.0000	IN. Y0
BREF =	936.6800	INCHES	ZMRP =	375.0000	IN. Z0
SCALE =	.0200				

RUN NO. 34 / 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00 / 5.00

MACH	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
4.500	-1.259	.00083	-.08214	.09806	-.01507	.00012	-.00044	-.00151	.09997	.00095
4.500	.392	-.00120	-.04856	.09421	-.01355	.00013	.00029	-.00041	.09387	-.52420
4.500	2.087	-.00044	-.01501	.09126	-.01177	.00018	.00029	-.00013	.01832	.09065
4.500	3.724	-.00109	.02165	.08798	-.01077	.00022	.00020	.00062	.01589	.08920
4.500	5.369	-.00125	.05807	.08458	-.01014	.00022	.00026	.00057	.04990	.08964
4.500	6.954	-.00145	.09636	.08222	-.01026	.00024	.00039	.00039	.08569	.09328
4.500	8.553	-.00165	.13656	.08105	-.01002	.00029	.00041	.00045	.12299	.10045
4.500	10.122	-.00148	.17800	.07918	-.01029	.00032	.00042	.00026	.16132	.22433
4.500	11.690	-.00199	.22097	.07823	-.01043	.00035	.00044	.00056	.10923	.47680
4.500	13.213	-.00215	.26500	.07755	-.01093	.00046	.00041	.00054	.12138	.65211
4.500	14.737	-.00228	.31142	.07653	-.01138	.00043	.00046	.00072	.13606	.76580
4.500	16.267	-.00232	.36078	.07597	-.01222	.00054	.00046	.00064	.15323	.83842
4.500	17.715	-.00260	.40860	.07532	-.01336	.00056	.00040	.00081	.32506	.17398
4.500	19.193	-.00287	.45729	.07433	-.01463	.00061	.00044	.00089	.36631	.86825
4.500	20.665	-.00290	.50862	.07341	-.01608	.00072	.00038	.00122	.40744	.22053
	GRADIENT	-.00030		.02072	-.00199	.00088		.00116	.44999	.24818
								.00035	.01913	.1.81318
								-.00004		.19579
										-.00211

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(RKS003) (21 JUL 81)

PARAMETRIC DATA

BETA =	.000	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	.000
RUDDER =	.000	AILRON =	.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

PAGE 6

LARC UPWT 1243(LA125)SSV ORBITER 102 (INVERTED)

(RKS004)

(21 JUL 81)

REFERENCE DATA

SREF	2690.0000 SQ.FT.	XMRP	1076.6800 IN.	X0	BETA	.000	ELEVON	.000
LREF	474.8100 INCHES	YMRP	0.0000 IN.	Y0	BDFLAP	.000	SPDBRK	.55.000
BREF	936.6800 INCHES	ZMRP	375.0000 IN.	Z0	RUDDER	.000	AIRRON	.000
SCALE	.0200							

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D	
RUN NO.												
2.500	-4.548	-.01887	-.17075	.13359	.01095	.00043	-.00043	.00904	-.15962	.14671	-.08797	
2.500	-3.504	-.01359	-.13769	.13294	.00903	.00053	-.00051	.00703	-.12931	.14110	-.91640	
2.500	-2.415	-.02014	-.10392	.13194	.00697	.00039	-.00043	.00961	-.09827	.13620	-.72150	
2.500	-1.368	-.01466	-.07349	.13045	.00500	.00054	-.00042	.00728	-.07036	.13216	-.53234	
2.500	-2.291	-.01581	-.04170	.12866	.00280	.00053	-.00037	.00763	-.04105	.12887	-.31851	
2.500	.789	-.01605	-.00894	.12726	.00044	-.00044	-.00029	.00755	-.01069	.12713	-.08406	
2.500	1.833	-.01753	-.02197	.12542	-.00038	.00052	-.00021	.00797	.01795	.12605	.14239	
2.500	2.887	-.01711	.05262	.12408	-.00181	.00063	-.00018	.00771	.04631	.12857	.36585	
2.500	3.564	-.01754	.07237	.12301	-.00282	.00053	-.00004	.00755	.06458	.12727	.50742	
	GRADIENT	.00002	.02987	-.00137	-.00171	.00001	-.00005	-.00011	.02756	-.00238	.19904	

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D	
RUN NO.												
3.000	-4.671	-.01283	-.15890	.12393	-.00364	.00040	.00017	.00575	-.14828	.13646	-.08663	
3.000	-3.623	-.01343	-.13317	.12302	-.00392	.00043	.00011	.00620	-.12513	.13119	.95335	
3.000	-2.567	-.01211	-.10646	.12197	-.00400	.00049	.00008	.00565	-.10069	.12662	.79684	
3.000	-1.501	-.01134	-.07909	.12018	-.00407	.00049	.00005	.00535	-.07591	.12221	.62119	
3.000	-.452	-.01175	-.05288	.11798	-.00413	.00051	.00002	.00564	-.01194	.13876	.23038	
3.000	.599	-.01202	-.02554	.11642	-.00432	.00054	.00005	.00569	-.02676	.11614	.02515	
3.000	1.631	-.01186	-.00038	.11526	-.00400	.00051	.00001	.00573	-.00290	.11522		
3.000	2.707	-.01214	.02808	.11354	-.00372	.00062	.00002	.00585	.02268	.11474	.19770	
3.000	3.239	-.01163	.04282	.11243	-.00375	.00065	-.00002	.00571	.03640	.11467	.31748	
	GRADIENT	.00014	.02548	-.00150	-.00000	.00003	-.00002	-.00001	.02334	-.00273	.17966	

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D	
RUN NO.												
3.500	-4.387	-.00930	-.14724	.11639	-.01269	.00032	.00029	.00456	-.13790	.12731	-.08316	
3.500	-3.351	-.00993	-.12405	.11486	-.01200	.00028	.00026	.00499	-.11713	.12192	-.96072	
3.500	-2.304	-.00990	-.10094	.11280	-.01122	.00032	.00021	.00512	-.09632	.11677	.82490	
3.500	-1.262	-.00994	-.07699	.11012	-.01023	.00033	.00016	.00525	-.07454	.11179	.66682	
3.500	-.227	-.00997	-.05270	.10772	-.00950	.00037	.00012	.00537	-.05227	.10792	.48435	
3.500	.818	-.00920	-.02824	.10561	-.00881	.00040	.00013	.00491	-.02974	.10510	.28299	
3.500	1.667	-.00944	-.00384	.10390	-.00772	.00037	.00020	.00487	-.00722	.10372	.06962	
3.500	2.907	-.00978	.02053	.10195	-.00695	.00039	.00022	.00501	.01533	.10286	.14907	
3.500	3.287	-.00972	.03000	.10117	-.00667	.00025	.00024	.00494	.02415	.10272	.23514	
	GRADIENT	.00001	.02313	-.00204	.00080	-.00001	-.00001	-.00001	.02117	-.00318	.17472	

DATE 21 JUL 81

LA125 (LARC UPNT 1243)

REFERENCE DATA
LARC UPNT 1243(LA125)SSV ORBITER 102 (INVERTED)

SREF	2690.0000 SQ.FT.	XMRP	1076.6800 IN. X0
LREF	474.8100 INCHES	YMRP	.0000 IN. Y0
BREF	936.6800 INCHES	ZMRP	.375.0000 IN. Z0
SCALE	.0200		

RUN NO.	32 / 0	RNL =	2.00	GRADIENT INTERVAL =	-5.00/ 5.00					
MACH	ALPHA	BETA	CN	CLM	CBL	CYN	CY	CL	CD	L/D
4.000	-4.866	-.00878	-15174	-.01717	.00023	.00027	.00484	-.14170	.12442	-.11388
4.000	-3.823	-.00886	-13215	-.01595	.00023	.00024	.00498	-.12452	.11857	-.11053
4.000	-2.768	-.00818	-11191	-.01458	.00027	.00024	.00459	-.10655	.11283	-.94428
4.000	-1.762	-.00826	-10752	-.01329	.00030	.00020	.00474	-.08709	.10721	-.81233
4.000	-.719	-.00823	-06719	-.01212	.00033	.00014	.00488	-.06591	.10235	-.64397
4.000	.318	-.00799	-.04449	-.01147	.00026	.00015	.00471	-.04504	.09882	-.45580
4.000	1.351	-.00808	-.02177	-.01087	.00024	.00012	.00484	-.02415	.09649	-.24925
4.000	2.389	-.00817	.00052	-.01010	.00023	.00017	.00480	-.00345	.09511	-.03626
4.000	2.892	-.00807	.01185	.09408	-.00990	.00025	.00480	.00709	.09456	.07497
GRADIENT	.00009	.02129	-.00238	.00094	-.00000	-.00002	-.00000	.01940	-.00387	.16005
RUN NO.	33 / 0	RNL =	2.00	GRADIENT INTERVAL =	-5.00/ 5.00					
MACH	ALPHA	BETA	CN	CLM	CBL	CYN	CY	CL	CD	L/D
4.500	-5.248	-.00819	-15447	-.02063	.00024	.00029	.00544	-.14394	.12179	-.118183
4.500	-4.230	-.00821	-13794	-.01928	.00023	.00034	.00535	-.12973	.11615	-.11687
4.500	-3.191	-.00817	-11987	-.01738	.00021	.00036	.00526	-.11391	.11020	-.103368
4.500	-2.171	-.00834	-10034	-.01052	.00021	.00040	.00531	-.09646	.10425	-.92533
4.500	-1.139	-.00792	-07906	-.09766	.00025	.00032	.00520	-.07710	.09921	-.77713
4.500	-.111	-.00810	-.05819	.09503	-.00321	.00036	.00524	-.05801	.09514	-.60971
4.500	.926	-.00790	-.03704	.09267	-.0023	.00039	.00503	-.03853	.09206	-.41855
4.500	1.950	-.00812	-.01661	.09107	.00028	.00034	.00532	-.01970	.09046	-.21781
4.500	2.485	-.00793	-.00533	.09011	-.0109	.00026	.00521	-.00923	.08980	-.10281
GRADIENT	.00004	.01993	-.00245	.00117	.00001	-.00000	-.00002	.01814	-.00393	.15428

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(RKS004) (21 JUL 81)
PARAMETRIC DATA

BETA	BOFLAP	ELEVON	SPDBRK	ATLRDN
0.000	.000	.000	.000	.000

DATE 21 JUL 81

Al25 11 ABC 11841 13121

REFERENCE DATA

LARC UPNT 1243(LA125)SSV ORBITER 102

LARC UNIT 124311A125155Y 8891158 103

REFERENCE DATA				
SREF	=	2690.0000	SQ.FT.	XMRP
LREF	=	474.8100	INCHES	YMRP
BREF	=	936.6800	INCHES	ZMRP
SCALE	=	.0200		

PARAMETRIC DATA

(RKS005) (21 جول 81)

(BKS005)

RUN NO.	BETA	ALPHA	MACH	RN/L =	GRADIENT INTERVAL =	- 5.00 /	5.00
2 / 0	.02863	-1.119	2.500	CN	CLM	CBL	CY
2 / 02715	.02612	-1.176	2.500	CA	.03633	.00312	-.04131
2 / 02938	.02393	-1.436	2.500		.00363	.00282	-.04005
2 / 040	.02345	2.864	2.500		.00363	.00209	-.03898
2 / 050	.02253	4.168	2.500		.00265	.00202	-.03571
2 / 0527	.02265	5.527	2.500		.00472	.00204	-.03479
2 / 0557	.02265	7.967	2.500		.00680	.00202	-.03345
2 / 05913	.02181	9.225	2.500		.00865	.00100	-.03298
2 / 0640	.02122	10.422	2.500		.01219		-.03216
2 / 06933	.02116	11.661	2.500		.01735		-.03180
2 / 07367	.02185	12.954	2.500		.01887		-.03153
2 / 0775	.02326	14.088	2.500		.02302		-.03127
2 / 08215	.02348	15.347	2.500		.02539		-.03095
2 / 0866	.02508	16.462	2.500		.02959		-.03068
2 / 09103	.03006		2.500		.038485		-.03025
2 / 09132					.13166		-.03014
2 / 0915					.13017		-.03007
2 / 0917					.12863		-.02995
2 / 0920					.12632		-.02964
2 / 0922					.12476		-.02934
2 / 0924					.12280		-.02898
2 / 0926					.12035		-.02866
2 / 0928					.11887		-.02835
2 / 0930					.11636		-.02806
2 / 0932					.11530		-.02779
2 / 0934					.11414		-.02749
2 / 0936					.11279		-.02718
2 / 0938					.11125		-.02684
2 / 0940					.10947		-.02653
2 / 0942					.51456		-.02623
2 / 0944					.51202		-.02592
2 / 0946					.50947		-.02561
2 / 0948					.50689		-.02530
2 / 0950					.50421		-.02500
2 / 0952					.50153		-.02469
2 / 0954					.49889		-.02438
2 / 0956					.49621		-.02407
2 / 0958					.49353		-.02376
2 / 0960					.49085		-.02345
2 / 0962					.48817		-.02314
2 / 0964					.48549		-.02283
2 / 0966					.48281		-.02252
2 / 0968					.47903		-.02221
2 / 0970					.47525		-.02190
2 / 0972					.47147		-.02159
2 / 0974					.46769		-.02128
2 / 0976					.46391		-.02097
2 / 0978					.45913		-.02066
2 / 0980					.45535		-.02035
2 / 0982					.45157		-.02004
2 / 0984					.44779		-.01973
2 / 0986					.44391		-.01942
2 / 0988					.43913		-.01911
2 / 0990					.43535		-.01880
2 / 0992					.43157		-.01849
2 / 0994					.42779		-.01818
2 / 0996					.42391		-.01787
2 / 0998					.41913		-.01756
2 / 0999					.41535		-.01725

L/D	CL	CD	CD	CL
.06608	.02977	.13297	.13297	.02977
.05940	.05940	.13008	.13008	.05940
.04503	.04503	.12882	.12882	.04503
.08102	.08102	.12873	.12873	.08102
.12122	.12122	.13100	.13100	.12122
.15515	.15515	.13511	.13511	.15515
.19449	.19449	.14012	.14012	.19449
.23203	.23203	.14725	.14725	.23203
.27113	.27113	.15557	.15557	.27113
.30867	.30867	.16710	.16710	.30867
.34977	.34977	.18025	.18025	.34977
.38609	.38609	.19619	.19619	.38609
.42708	.42708	.21159	.21159	.42708
.46290	.46290	.23073	.23073	.46290
.02782	.02782	.24927	.24927	.02782
		-.00039	-.00039	
		.21185	.21185	
		.185705	.185705	
		.185100	.185100	
		.184669	.184669	
		.178281	.178281	
		.178281	.178281	
		.172550	.172550	
		.162254	.162254	
		.149144	.149144	
		.132081	.132081	
		.10725	.10725	
		.091444	.091444	
		.04583	.04583	
		.022890	.022890	
		.006692	.006692	

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. X0
 LREF = 474.8100 INCHES YMRP = .0000 IN. Y0
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. Z0
 SCALE = .0200

RUN NO. 19/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

BETA = 2.000 ELEVON = 2.000
 BDFLAP = .000 SPDVRK = .000
 RUDDER = .000 AILRDN = .000

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
3.500	-1.266	2.01957	.07727	.10958	-.01021	-.00107	.00253	-.03558	-.07484	.11126	-.67260
3.500	.264	2.01750	-.04184	.10763	-.00897	-.00137	.00245	-.03410	-.04233	.10743	-.39402
3.500	1.801	2.01746	-.00459	.10493	-.00832	-.00157	.00191	-.03268	-.00769	.10353	-.07532
3.500	3.282	2.01680	.03193	.10687	-.00781	-.00178	.00142	-.03104	.02605	.10467	.25160
3.500	4.761	2.01629	.06975	.09222	-.00780	-.00195	.00116	-.03008	.06128	.10467	.56542
3.500	6.247	2.01592	.11013	.09735	-.00787	-.00209	.00098	-.02939	.09888	.10876	.90919
3.500	7.697	2.01689	.15049	.09599	-.00785	-.00216	.00079	-.02966	.13628	.11528	.18122
3.500	9.132	2.01531	.19249	.09510	-.00806	-.00239	.00075	-.02867	.17496	.12444	.40592
3.500	10.552	2.01504	.23460	.09415	-.00862	-.00248	.00052	-.02791	.21340	.13552	.57469
3.500	11.952	2.01530	.27731	.09318	-.00903	-.00252	-.00001	-.02674	.25201	.14859	.69606
3.500	13.362	2.01544	.32180	.09177	-.00996	-.00253	-.00036	-.02590	.29188	.16356	.78348
3.500	14.771	2.01552	.36680	.09008	-.01122	-.00254	-.00079	-.02492	.33171	.18062	.83649
3.500	16.154	2.01601	.41297	.08652	-.01277	-.00270	-.00114	-.02430	.37204	.19992	.86091
3.500	17.506	2.01664	.45846	.08729	-.01424	-.00258	-.00163	-.02341	.41097	.22116	.65824
3.500	18.857	2.01728	.50578	.08604	-.01604	-.00254	-.00216	-.02242	.45082	.24490	.84085
3.500	GRADIENT	-.00048	.02440	-.00176	.00040	-.00014	-.00025	-.00033	.02260	-.00114	.20970

RUN NO. 26/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

BETA = 2.000 ELEVON = 2.000
 BDFLAP = .000 SPDVRK = .000
 RUDDER = .000 AILRDN = .000

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
4.000	-1.288	2.00940	-.08016	.10268	-.01201	-.00089	.00237	-.03203	-.07783	.10466	-.74361
4.000	.349	2.00877	-.04619	.10039	-.01099	-.00122	.00228	-.03137	-.04680	.10011	-.46753
4.000	1.954	2.00799	-.01076	.09743	-.01019	-.00153	.00186	-.02978	-.01408	.09700	-.14510
4.000	3.477	2.00760	.02512	.09558	-.00979	-.00163	.00134	-.02821	-.01934	.09593	.20158
4.000	5.052	2.00715	.06217	.09193	-.00975	-.00192	.00121	-.02760	-.05383	.09705	.55469
4.000	6.591	2.00698	.10106	.09037	-.00945	-.00210	.00105	-.02710	.09002	.10137	.88800
4.000	8.078	2.00645	.14148	.08997	-.00951	-.00217	.00081	-.02618	.12757	.10796	.18164
4.000	9.577	2.00697	.18339	.08735	-.01000	-.00226	.00040	-.02551	.16620	.11723	.41770
4.000	11.065	2.00719	.22611	.08700	-.01032	-.00252	.00019	-.02515	.20521	.12878	.59347
4.000	12.542	2.00745	.27007	.08625	-.01040	-.00258	-.00023	-.02426	.24489	.14284	.71452
4.000	13.966	2.00825	.31399	.08478	-.01115	-.00267	-.00073	-.02349	.28425	.15805	.79844
4.000	15.423	2.00829	.36136	.08393	-.01213	-.00273	-.00107	-.02271	.32606	.17692	.84299
4.000	16.833	2.00893	.40694	.08265	-.01305	-.00281	-.00149	-.02204	.36597	.19695	.85613
4.000	18.233	2.00920	.45511	.08148	-.01380	-.00274	-.00164	-.02135	.40677	.21979	.85075
4.000	19.630	2.00990	.50387	.08051	-.01490	-.00274	-.00228	-.02067	.44754	.24511	.82587
4.000	GRADIENT	-.00039	.02208	-.00175	.00047	-.00016	-.00022	-.00038	.02039	-.00165	.19841

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	2690.0000 SQ.FT.	XMRP	1.076 IN.	X0
LREF	474.8100 INCHES	YMRP	.0000 IN.	Y0
BREF	936.6800 INCHES	ZMRP	.375.0000 IN.	Z0
SCALE	.0200			

	RUN NO.	35/ 0	RN/L =	2.00	GRADIENT INTERVAL =	-5.00/ 5.00
MACH	ALPHA	BETA	CN	CLM	CBL	CYN
4.500	-1.248	2.00396	-.08125	.09819	-.01478	-.00070
4.500	.395	2.00294	-.04872	.09485	-.01301	-.00103
4.500	.066	2.00200	-.01402	.09105	-.01210	-.00112
4.500	3.708	2.00128	.02247	.08739	-.01162	-.00139
4.500	5.344	2.00011	.05916	.08458	-.01097	-.00168
4.500	6.962	2.00044	.09702	.08253	-.01031	-.00194
4.500	8.541	1.99951	.13706	.08079	-.01039	-.00188
4.500	10.109	1.99911	.17896	.07918	-.01078	-.00208
4.500	11.658	1.99900	.22117	.07784	-.01119	-.00208
4.500	13.194	1.99879	.26570	.07701	-.01164	-.00221
4.500	14.736	1.99915	.31237	.07638	-.01189	-.00237
4.500	16.211	1.99899	.35909	.07547	-.01276	-.00248
4.500	17.713	1.99887	.40921	.07494	-.01352	-.00271
4.500	19.199	1.99919	.45771	.07397	-.01467	-.00271
4.500	20.661	1.99958	.50909	.07341	-.01621	-.00254
	GRADIENT	-.00054	.02091	-.00219	-.00063	-.00014
						.00008

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PARAMETRIC DATA

	BETA	BDFLAP	ELEVON	SPDBRK	AILRON	L/D
	.000	.000	.000	.000	.000	.0993
	.000	.000	.000	.000	.000	.09451
						-.52241
						-.19106
						.18917
						.56878
						.92128
						1.23238
						.10025
						.12355
						.16179
						.10927
						.02325
						.00026
						.00220
						.00026
						.02259
						.00221
						.00063
						.02155
						.00081
						.02136
						.02059
						.32374
						.17272
						.19599
						.36701
						.01998
						.01130
						.00167
						.00271
						.00254
						.01837
						.00215
						.00018
						.00088
						-.00229
						.19790

DATE 21 JUL 81

LA125 (LARC UPNT 1243)

LARC UPNT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

	SREF	2690.0000 SQ.FT.	XMRP	1076.6800 IN.	X0	BETA	.000	ELEVON	.000	CD	L/D
	LREF	474.8100 INCHES	YMRP	0000 IN.	Y0	BOFLAP	.000	SPDBRK	.000	.11316	-.74684
	BREF	936.6800 INCHES	ZMRP	375.0000 IN.	Z0	RUDDER	.000	AIRRON	.000	.10626	-.50291
	SCALE	.0200									
MACH	ALPHA		BETA	CN	CLM	CBL	CYN	CY	CL	CD	L/D
4.500	-1.250	-.00195	-.08696	.11129	.00183	.00008	.00051	.00049	-.08451	-.11316	-.74684
4.500	.421	-.00123	-.05266	.10665	.00191	-.00006	.00037	.00023	-.05344	.10626	-.50291
4.500	2.089	-.00163	-.01772	.10348	.00323	-.00002	.00041	.00047	-.02148	.10276	-.20901
4.500	3.723	-.00163	.01901	.10043	.00448	-.00006	.00028	.00083	.01245	.10145	.12270
4.500	5.349	-.00198	.05545	.09720	.00510	-.00007	.00030	.00104	.04615	.10194	.45268
4.500	7.039	-.00197	.09564	.09503	.00559	-.00007	.00041	.00073	.08328	.10604	.78535
4.500	8.560	-.00185	.13419	.09443	.00639	-.00015	.00035	.00079	.11864	.11335	.1.04665
4.500	10.119	-.00183	.17557	.09184	.00524	-.00024	.00035	.00071	.15670	.12126	.29230
4.500	11.741	-.00158	.22087	.09007	.00425	-.00018	.00040	.00037	.19792	.13312	.48673
4.500	13.236	-.00233	.26580	.08834	.00296	-.00027	.00039	.00092	.23851	.14686	.1.62410
4.500	14.681	-.00175	.31037	.08671	.00153	-.00015	.00049	.00019	.27826	.16254	.71192
4.500	16.240	-.00173	.36362	.08493	.00125	-.00027	.00031	.00060	.32536	.18323	.77567
4.500	17.698	-.00200	.41228	.08350	-.00386	-.00029	.00035	.00068	.36742	.20482	.79387
4.500	19.208	-.00184	.46428	.08173	-.00622	-.00039	.00027	.00074	.41155	.22993	.78986
4.500	20.728	-.00199	.51740	.07998	-.00878	-.00043	.00028	.00082	.45560	.25793	.1.76634
	GRADIENT	.00003	.02127	-.00216	.00056	-.00000	-.00004	.00009	.01846	-.00233	.17493

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DATE 21 JUL 81

LA125 SHARE UPWT 12431

אָמֵן וְאַתָּה תִּשְׁמַע אָמֵן וְאַתָּה תִּשְׁמַע

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. X0
 LREF = 474.8100 INCHES YMRP = .0000 IN. Y0
 BREF = 936.6800 INCHES ZMRP = .375.0000 IN. Z0
 SCALE = .0200

1. AERONAUTIC DATA

BETA	=	.000	ELEVON	=	.000
BDFLAP	=	.000	SPDBRK	=	.87 .200
RUDDER	=	.000	AIRRON	=	.000

ANGLE OF INC DATA

BETA	.000	ELEVON	.000
BDFLAP	.000	SPDBRK	.87.200
RUDDER	.000	AIRRON	.000

RUN NO.	BETA	RN/L	GRADIENT	INTERVAL	-5.00/	5.00
4.500	.02071	CN	CLM	CBL	CYN	CD
4.500	.08784	.11099	.00214	-.00001	.00052	-.08543
4.500	.05263	.0616	.00226	-.00007	.00037	-.05348
4.500	.02028	.01907	.00295	-.00003	.00038	-.02285
4.500	.02025	.01633	.0009	.00005	.00030	.00985
4.500	.02059	.05276	.09685	.00004	.00030	.0093
4.500	.02073	.09162	.09479	.00001	.00043	.0133
4.500	.02078	.09162	.09479	.00001	.00060	.02972
4.500	.02082	.13102	.09417	.00009	.00036	.0517
4.500	.02064	.17376	.09142	.00015	.00038	.1254
4.500	.02078	.21649	.08973	.00015	.00039	.1259
4.500	.02059	.26283	.0896	.00312	.00017	.19387
4.500	.02099	.30974	.08637	.00174	.00014	.23571
4.500	.02099	.35919	.08469	.00014	.00058	.4580
4.500	.02087	.40868	.08303	.00022	.00028	.11562
4.500	.02067	.45985	.08137	.00054	.00015	.15494
4.500	.02082	.50955	.07960	.00082	.00034	.1365
4.500	.00003	.02106	-.00219	.00053	.00001	.61673
GRADIENT						
MACH						
ALPHA	-1.232					

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	=	2690.0000	SQ. FT.	XMRP	=	1076.6800	IN. X0
LREF	=	474.8100	INCHES	YMRP	=	.0000	IN. Y0
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN. Z0
SCALE	=	.0200					

MACH	ALPHA	BETA	CN	CA	CLM	CBL	CYN	CY	CD	L/D
4.500	-1.274	2.01965	-.08802	.11169	.00242	-.00114	.00239	-.03065	-.08551	-.75262
4.500	.218	2.01876	-.05814	.10824	.00363	-.00149	.00241	-.02999	-.05856	.54211
4.500	2.164	2.01802	-.01682	.10350	.00369	-.00175	.00194	-.02822	-.02071	.20152
4.500	3.724	2.01752	.01792	.09969	.00284	-.00196	.00166	-.02711	.10279	-.11328
4.500	5.307	2.01639	.05425	.09701	.00441	-.00231	.00169	-.02635	.01140	.10065
4.500	6.951	2.01579	.09256	.09536	.00567	-.00259	.00172	-.02598	.08034	.10586
4.500	8.512	2.01566	.13231	.09343	.00537	-.00259	.00133	-.02492	.11703	.75894
4.500	10.110	2.01508	.17598	.09125	.00429	-.00272	.00106	-.02384	.15723	.11199
4.500	11.646	2.01535	.21856	.08889	.00250	-.00279	.00071	-.02318	.12073	.104497
4.500	13.176	2.01562	.26425	.08738	.00139	-.00274	.00017	-.02202	.19612	.13118
4.500	14.698	2.01562	.31183	.08586	.00004	-.00278	-.00021	-.02111	.23738	.14531
4.500	16.235	2.01674	.36110	.08427	-.00159	-.00285	-.00080	-.02051	.27984	.16217
4.500	17.700	2.01695	.41148	.08320	-.00359	-.00272	-.00143	-.01905	.32314	.172559
4.500	19.195	2.01790	.46186	.08144	-.00594	-.00262	-.00207	-.01815	.36670	.177678
4.500	20.653	2.01829	.51367	.08003	-.00887	-.00236	-.00270	-.01688	.40941	.20436
	GRADIENT	-.00042	.02121	-.00241	.00025	-.00016	-.00016	.01940	.45243	.78964
									.25606	.1.76690
									-.00260	.1.7359

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(21 JUL 81)PARAMETRIC DATA
(IRKS008) (21 JUL 81)

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243 (LA125) SSV ORBITER 102

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(RKS009) (21 JUL 81)

REFERENCE DATA

	SREF	2690.0000 SQ.FT.	XMRP	1076.6800 IN.	XO	ALPHA	16.200	ELEVON	.0000	
LREF	474.8100 INCHES	YMRP	0.0000 IN.	YO		BDFLAP	25.000	SPDBRK		
BREF	936.6800 INCHES	ZMRP	375.0000 IN.	ZO		RUDDER	.0000	AIRRON	.0000	
SCALE	.0200									
MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CD	
4.500	-6.107	16.16169	.36435	.07519	-.01719	.00919	.00417	.06939	.17363	
4.500	-4.069	16.15957	.36490	.07443	-.01713	.00635	.00281	.0447	.17304	
4.500	-3.025	16.15684	.36557	.07405	-.01736	.00483	.00246	.03310	.190566	
4.500	-2.019	16.15832	.36573	.07397	-.01739	.00297	.00220	.03310	.191202	
4.500	-1.001	16.15815	.36471	.07397	-.01691	.00157	.00154	.00994	.17273	
4.500	-5.38	16.15635	.36456	.07373	-.01724	.00088	.00090	.00438	.17254	
4.500	-.001	16.34006	.37007	.07377	-.01726	.00031	.00042	.0010	.17226	
4.500	.452	16.15685	.36577	.07391	-.01710	-.00046	-.00048	.00051	.17490	
4.500	.981	16.15656	.36501	.07381	-.01713	-.00112	-.00050	-.01089	.17277	
4.500	2.021	16.15536	.36471	.07334	-.01738	-.00254	-.00150	-.02171	.17246	
4.500	3.057	16.15809	.36484	.07330	-.01716	-.00412	-.00175	-.03279	.17192	
4.500	4.021	16.34181	.37085	.07351	-.01730	-.00587	-.00214	-.04544	.17193	
	GRADIENT	.01176	.00033	-.00012	-.00000	-.00069	-.00147	-.00032	.00005	.191954

PARAMETRIC DATA

	(RKS009)	(21 JUL 81)
CD	.32903	.89495
CD	.32976	.90566
CD	.33052	.91202
CD	.33072	.91470
CD	.32972	.91098
CD	.32965	.91362
CD	.33437	.91174
CD	.33075	.91438
CD	.33005	.91382
CD	.32990	.91691
CD	.33003	.91954
CD	.33518	.91656
CD	.00005	.000128

DATE 21 JUL 81

LAI25 (LARC UPWT 1243)

LARC UPWT 1243(LAI25)SSV ORBITER 102

REFERENCE DATA

SREF =	2690.0000	SQ.FT.	XMRP =	1076.6800	IN. X0
LREF =	474.8100	INCHES	YMRP =	.0000	IN. Y0
BREF =	936.6800	INCHES	ZMRP =	375.0000	IN. Z0
SCALE =	.0200				

RUN NO. 11 / 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00 / 5.00

MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CD	L/D	
3.000	-6.180	3.94079	.06430	.11248	-.01004	.00755	-.00633	.10258	.05642	.11663	
3.000	-4.077	3.93464	.06233	.11277	-.00719	.00484	-.00327	.06399	.05444	.11678	
3.000	-3.041	3.94610	.06230	.11245	-.00591	.00361	-.00207	.04732	.05442	.11647	
3.000	-2.021	3.94515	.06177	.11221	-.00514	.00242	-.00094	.02926	.05390	.11619	
3.000	-1.007	3.94580	.06152	.11191	-.00444	.00140	-.00054	.01341	.05367	.11598	
3.000	-.559	3.94691	.06190	.11209	-.00424	.00104	-.00036	.00623	.05404	.11608	
3.000	.005	3.94135	.06202	.11193	-.00437	.00031	-.00001	-.00208	.05418	.11593	
3.000	.484	3.94951	.06264	.11181	-.00425	-.00022	.00036	-.01065	.05479	.11596	
3.000	1.019	3.94765	.06232	.11179	-.00454	-.00068	-.00047	-.01775	.05447	.11581	
3.000	1.992	3.94867	.06330	.11209	-.00516	.00110	-.03255	.05543	.11618	.11713	
3.000	3.083	3.95149	.06425	.11233	-.00593	-.00311	-.00226	-.05103	.05636	.11649	
3.000	4.118	3.92204	.06492	.11259	-.00729	-.00435	-.00351	-.06928	.05707	.11676	
		GRADICNT	-.000041	-.000033	-.000001	-.00110	-.00074	-.01606	.00033	-.00000	.00288

PARAMETRIC DATA

(RKS011) (21 JUL 81)

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LA125 (LARC UPTIT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

(RKS013) (21 JUL 81)
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REFERENCE DATA

	SREF	LREF	BREF	SCALE	SQ.FT.	XMRP	YMRP	ZMRP	IN. X0	IN. Y0	IN. Z0
	2690.0000	474.8100	936.6800	.0200		1076.6800	0000	375.0000			

	MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
RUN NO.	27 / 0	RN/L	-	2.00	GRADIENT INTERVAL	-	-5.00/	5.00				
	4.000	-6.134	4.26901	.04488	.09481	.01234	.00651	-.00392	.09391			
	4.000	-4.127	4.26567	.04369	.09419	-.01106	.00417	-.00202	.06118	.03770	.09788	.38513
	4.000	-3.078	4.26398	.04295	.09381	-.01016	.00310	-.00141	.04592	.03656	.09718	.37625
	4.000	-2.049	4.26168	.04256	.09353	-.00957	.00201	-.00065	.03047	.03586	.09675	.37062
	4.000	-1.043	4.26163	.04228	.09370	-.00872	.00107	-.00016	.01455	.03549	.09643	.36806
	4.000	-5.02	4.25988	.04154	.09368	-.00878	.00068	-.00012	.00742	.03520	.09658	.36450
	4.000	-0.020	4.28408	.04226	.09366	-.00871	.00018	-.00019	.0057	.03447	.09651	.35714
	4.000	-4.73	4.26481	.04224	.09357	-.00880	.00033	-.00046	.00706	.03515	.09655	.36403
	4.000	1.003	4.26636	.04185	.09347	-.00888	.00069	-.00058	.01319	.03516	.09645	.36454
	4.000	1.990	4.26536	.04284	.09303	-.00965	.00176	-.00107	.02845	.03478	.09632	.36112
	4.000	3.033	4.26552	.04310	.09315	-.01008	.00291	-.00190	.04433	.03580	.09596	.37310
	4.000	4.076	4.26999	.04521	.09370	-.01088	.00392	-.00254	.05945	.03605	.09610	.37515
GRAD CNT			.00059	.00011	-.00008	.00001	-.00097	.00053	-.01467	.03811	.09681	.39367
										.00012	-.00008	.00151

PARAMETRIC DATA

	ALPHA	BDFLAP	SPDBRK	AIRRON
	4.300	.000	.000	.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

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REFERENCE DATA
LARC UPWT 1243(LA125)SSV ORBITER 102

SREF	=	2690.0000 SQ.FT.
LREF	=	474.8100 INCHES
BREF	=	936.6800 INCHES
SCALE	=	.0200

RUN NO.	RN/L	2.00	GRADIENT INTERVAL = -5.00/ 5.00			
			ALPHA	CN	CA	CLM
4.500	-6.107	.49974	.04156	.08782	-.01288	.00593
4.500	-4.069	.49656	.04110	.08660	-.01207	.00386
4.500	-3.084	.50601	.04071	.08648	-.01144	.00311
4.500	-2.019	.50397	.04065	.08617	-.01090	.00190
4.500	-1.038	.51769	.04021	.08621	-.01037	.00098
4.500	-5.39	.51896	.04026	.08601	-.01031	.00063
4.500	-	.51950	.04102	.08605	-.01060	.00018
4.500	.490	.52780	.04066	.08604	-.01035	.00027
4.500	.981	.52825	.04102	.08597	-.01076	.00064
4.500	2.000	.52902	.04185	.08565	-.01131	.00161
4.500	3.019	.53057	.04266	.08596	-.01168	.00257
4.500	4.077	.50922	.04256	.08618	-.01234	.00349
	GRADINT	.00306	.00025	-.00008	-.00005	-.00090

(RKS014) (21 JUL 81)

PARAMETRIC DATA

ALPHA	=	4.500
BOFLAP	=	.000
RUDDER	=	.000
AIRRON	=	.000

CD	.09081
CY	.08666
CL	.03455
L/D	.38043
CD	.03419
CY	.05481
CL	.00078
L/D	.38169
CD	.0259
CY	.0379
CL	.00008
L/D	.37792
CD	.02621
CY	.0375
CL	.00008
L/D	.37892
CD	.01282
CY	.04329
CL	.00024
L/D	.37932
CD	.00693
CY	.03336
CL	.00018
L/D	.37518
CD	.00010
CY	.00025
CL	.00028
L/D	.38325
CD	.00034
CY	.00598
CL	.00027
L/D	.37918
CD	.00033
CY	.01238
CL	.00034
L/D	.37918
CD	.00161
CY	.01238
CL	.00075
L/D	.38344
CD	.002618
CY	.03495
CL	.00130
L/D	.39414
CD	.002574
CY	.08868
CL	.00130
L/D	.39414
CD	.00182
CY	.08896
CL	.00111
L/D	.40178
CD	.03565
CY	.08926
CL	.00025
L/D	.39940
CD	-.00006
CY	-.01336
CL	-.00025
L/D	.00301

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

	SREF	LREF	BREF	SCALE	XMRP	YMRP	ZMRP	X0	Y0	Z0
	2690.0000	8100 SQ.FT.	936.6800 INCHES	.0200	1076.6800	IN.	375.0000	IN.	IN.	20

	RUN NO.	4/ D	RN/L	- 2.00	GRADIENT INTERVAL = -5.00/ 5.00					
MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CL	CD
2.500	-6.198	6.67058	.17201	.12010	-.01261	.00810	-.00402	.10129	.15689	.13927
2.500	-4.162	6.66689	.16961	.12115	-.00923	.00490	-.00171	.06478	.15440	.14002
2.500	-3.156	6.70433	.17035	.12095	-.00876	.00353	-.00102	.04795	.15507	.14001
2.500	-2.072	6.70594	.17031	.12026	-.00835	.00220	-.00046	.03010	.15510	.13933
2.500	-1.072	6.72593	.17034	.11942	-.00839	.00110	-.00012	.01417	.15518	.13865
2.500	- .544	6.72739	.17054	.11929	-.00849	.00064	-.00001	.00643	.15539	.13845
2.500	- .014	6.73197	.17082	.11935	-.00845	.00010	-.00016	.000220	.15565	.13855
2.500	.505	6.73426	.17144	.11953	-.00856	.00052	-.00027	.00986	.15624	.13881
2.500	1.105	6.73303	.17103	.12008	-.00859	.00105	-.00033	.01925	.15577	.13930
2.500	2.044	6.70477	.17093	.12063	-.00881	.00208	-.00071	.02399	.15568	.13976
2.500	3.082	6.70627	.17184	.12144	-.00932	.00336	-.00132	.05047	.15648	.14067
2.500	4.180	6.70932	.17270	.12112	-.00988	.00483	-.00195	.06811	.15736	.14047
	GRADIENT	.00292	.00031	.00005	-.00009	-.00012	-.00039	-.0158;	.00029	.00009

PARAMETRIC DATA

(RK5015)	(21 JUL 81)
ALPHA =	6.700
BDFLAP =	.000
RUDDER =	.000
ELEVON =	.000
SPDBRK =	.000
AILRON =	.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

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REFERENCE DATA

SREF =	2690.0000	SQ.FT.	XMRP =	1076.6800	IN. XO
LREF =	474.8100	INCHES	YMRP =	.0000	IN. YO
BREF =	936.6800	INCHES	ZMRP =	375.0000	IN. ZO
SCALE =	.0200				

RUN NO. 21 / 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CLM	CBL	CYN	CL	CD	L/D
3.500	-6.170	7.65901	.15215	.09687	-.01220	.00899	-.00393	.09520	.11628
3.500	-4.118	7.67915	.15111	.09676	-.00969	.00557	-.00148	.05979	.11609
3.500	-3.068	7.68093	.15042	.09651	-.00846	.00419	-.00074	.04504	.11575
3.500	-2.054	7.68117	.14960	.09590	-.00796	.00288	-.00042	.02949	.11503
3.500	-1.046	7.68484	.14988	.09601	-.00720	.00152	-.00004	.01458	.11519
3.500	-54.3	7.68691	.15005	.09586	-.00697	.00095	-.00006	.00762	.11569
3.500	-0.01	7.69918	.15068	.09564	-.00719	.00024	-.00026	.00018	.11588
3.500	.492	7.69983	.15059	.09578	-.00706	-.00038	.00041	-.00613	.11365
3.500	.985	7.69679	.15025	.09603	-.00714	-.00084	.00033	-.01193	.11528
3.500	2.033	7.69708	.15132	.09597	-.00791	-.00221	.00075	-.02764	.11537
3.500	3.060	7.69651	.15157	.09639	-.00833	-.00346	.00117	-.04348	.13710
3.500	4.088	7.69696	.15284	.09648	-.00948	-.00498	.00195	-.05930	.13729
			.00023	GRADIENT	-.00002	-.00127	.00036	-.01436	.13854
								.000023	.00002

(RKS017) (21 JUL 81)

PARAMETRIC DATA

ALPHA =	7.700	ELEVON = .000
BDFLAP =	.000	SPDBRK = .000
RUDDER =	.000	AIRRON = .000

(21 JUL 81)

PAGE 001

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

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PARAMETRIC DATA

RUN NO.	RN/L =	2.00	GRADIENT INTERVAL =	-5.00/	5.00
MACH	CN	CA	CLM	CBL	CYN
BETA	ALPHA	.09026	-.01194	.00857	-.00334
4.000	8.08903	.14129	-.01066	.00559	-.00156
4.000	8.08908	.14060	.08964	-.00985	.05809
4.000	8.08870	.14080	.08939	-.00929	-.00062
4.000	8.08789	.14038	.08923	-.00270	-.00026
4.000	8.08746	.13984	.08938	.00680	.0145
4.000	8.08852	.14052	.08930	-.00877	.00007
4.000	8.08833	.14004	.08913	.00862	.00782
4.000	8.08950	.14033	.08918	-.00574	.00041
4.000	8.09002	.14107	.08921	-.00872	-.00658
4.000	8.08912	.14086	.08896	-.00938	-.00036
4.000	8.09115	.14178	.08895	-.00993	-.00072
4.000	8.09389	.14226	.08924	-.00339	.00101
4.000	8.09559	.00019	-.00106	-.00001	.00201
	GRADIENT				
					.000035
					-.00125
					-.00000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

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REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	1076.6800 IN. X0
LREF	=	474.8100 INCHES	YMRP	=	00000 IN. Y0
BREF	=	936.6800 INCHES	ZMRP	=	375.0000 IN. Z0
SCALE	=	.0200			

MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D	
4.500	-6.104	8.53893	.13744	.08289	-.01173	.00796	-.00210	.08277	.12361	.10238	1.20733	
4.500	-4.068	8.53455	.13760	.08178	-.01183	.00545	-.00120	.12394	.10129	.10129	1.22359	
4.500	-3.063	8.53467	.13740	.08145	-.01157	.00397	-.00030	.04927	.12379	.10094	1.22637	
4.500	-2.019	8.53492	.13755	.08105	-.01089	.00246	-.00048	.02684	.12400	.10057	1.23305	
4.500	-1.020	8.53385	.13746	.08099	-.01041	.00134	-.00059	.01247	.12392	.10050	1.23313	
4.500	-539	8.53250	.13700	.08087	-.01016	.00075	-.00051	.00634	.12349	.10030	1.23116	
4.500	-020	8.53358	.13782	.08067	-.01015	.00026	-.00040	.00033	.12432	.10022	1.24044	
4.500	.489	8.53136	.13698	.08050	-.01012	.00031	-.00028	-.00569	.12352	.09993	1.23610	
4.500	.999	8.53137	.13717	.08048	-.01004	.00084	-.00016	.00016	.12371	.09994	1.23791	
4.500	2.017	8.53302	.13767	.08058	-.01032	.00189	-.00028	.00028	.12418	.10012	1.24038	
4.500	3.017	8.53220	.13807	.08082	-.01094	.00344	-.00105	.00105	.12455	.10041	1.24045	
4.500	4.075	8.53355	.13835	.08131	-.01127	.00495	-.00198	.00198	.12476	.10094	1.23600	
		GRADIENT		-.00030	.00009	.00009	-.00123	.00026	-.01287	.00009	-.00008	.00185

LARC UPWT 1243(LA125)SSV ORBITER 102

(RKS019) (21 JUL 81)

PARAMETRIC DATA

ALPHA	=	8.500	ELEVON	=	.000
BOFLAP	=	.000	SPDBRK	=	.55 .000
RUDDER	=	.000	AILRON	=	.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

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 LARC UPWT 1243(LA125)SSV ORBITER 102
 (RKS020) (21 JUL 81)

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	X0
LREF	=	474.8100	INCHES	YMRP	=	.0000	IN.	Y0
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN.	Z0
SCALE	=	.0200						

MACH	BETA	RUN NO.	RN/L	2.00	GRADIENT INTERVAL = -5.00/ 5.00			CD	L/D
					ALPHA	CN	CLM		
2.500	-6.222	9.84192	.27674	.11570	-.01716	.00958	-.00191	.25289	.16130
2.500	-4.164	9.84277	.27282	.11644	-.01381	.00587	-.00026	.24890	.16137
2.500	-3.120	9.84247	.27234	.11613	-.01341	.00453	-.00025	.24844	.15424
2.500	-2.055	9.84441	.27296	.11537	-.01303	.00303	-.00009	.24848	.15436
2.500	-1.054	9.84440	.27137	.11552	-.01220	.00154	.00020	.24921	.15543
2.500	- .529	9.84795	.27200	.11544	-.01199	.00100	.00024	.24763	.15456
2.500	- .016	9.85283	.27333	.11567	-.01212	.00013	.00024	.24824	.16022
2.500	.485	9.85571	.27410	.11565	-.01221	.00057	.00010	.24950	.16073
2.500	1.064	9.85650	.27439	.11532	-.01267	.00131	.00005	.00927	.15527
2.500	2.043	9.85855	.27623	.11508	-.01320	.00268	.00039	.01748	.16086
2.500	3.081	9.86209	.27722	.11588	-.01351	.00408	.00055	.03252	.15575
2.500	4.159	9.83532	.27591	.11616	-.01414	.00544	.00067	.04810	.16059
GRADIENT		.00116	.00060	-.00004	-.00004	-.00137	.00011	.25328	.15605
								.25201	.16158
								.00007	.00304

PARAMETRIC DATA

ALPHA =	9.800	ELEVON =	.000
BOFLAP =	.000	SPDBRK =	.55.000
RUDDER =	.000	AIRRON =	.000

DATE 21 JUL 81

LA125 (LARC UPNT 1243)

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(RKS021) (21 JUL 81)

REFERENCE DATA

	SREF	2690.0000 SQ.FT	XMRP	1076.6800 IN.	XO
LREF	474.8100 INCHES	YMRP	.0000 IN.	YO	
BREF	936.6800 INCHES	ZMRP	.375.0000 IN.	ZO	
SCALE	.0200				

LARC UPNT 1243(LA125)SSV ORBITER 102

PARAMETRIC DATA

	ALPHA	10.700	ELEVON	.000							
	BDFLAP	.000	SPDBRK	.55.000							
	RUDDER	.000	AILRON	.000							
MACH	RUN NO.	13 / 0	RNL	2.00	GRADIENT INTERVAL ■ -5.00 / 5.00						
BETA	ALPHA	CN	CA	CLM	CBL	CYN	CL	CD	L/D		
3.000	-6.201	10.70908	.26905	.10330	-.0574	.01055	-.00300	.09526	.24516	.15150	
3.000	-4.159	10.71817	.26760	.10371	-.01306	.00660	-.00060	.05998	.24364	.15166	
3.000	-3.101	10.71771	.26641	.10343	-.0214	.00489	-.00014	.04384	.24252	.15117	
3.000	-2.024	10.71934	.26655	.10290	-.0158	.00341	-.00010	.02894	.24276	.15069	
3.000	-1.069	10.73282	.26635	.10282	-.0118	.00202	-.0001	.01449	.24254	.15062	
3.000	-.524	10.73510	.26687	.10274	-.01084	.00118	-.0003	.00641	.24306	.15065	
3.000	-.017	10.73697	.26680	.10271	-.01090	.00042	-.0013	.00117	.24300	.15062	
3.000	.538	10.73981	.26731	.10273	-.01101	-.00032	-.00018	-.00826	.24348	.15074	
3.000	.996	10.74130	.26769	.10277	-.01120	-.00109	-.00016	-.0527	.24385	.15086	
3.000	2.008	10.74158	.26794	.10269	-.01180	-.00256	-.00046	-.02958	.24410	.15083	
3.000	3.039	10.74183	.26815	.10309	-.01219	-.00388	-.00048	-.04383	.24424	.15126	
3.000	4.112	10.74123	.26808	.10324	-.01309	-.00557	-.00098	-.05994	.24414	.15140	
	GRADIENT	.00353	.00018	-.00005	-.00001	-.00146	.00015	-.01141	-.00000	-.00000	.00124

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

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 LARC UPWT 1243(LA125)SSV ORBITER 102
 (RKS022) (21 JUL 81)

REFERENCE DATA

SREF	2690.0000 SQ.FT.	XMRP	1076.6800 IN. X0	ALPHA	11.300	ELEVON	.000
LREF	474.8100 INCHES	YMRP	.0000 IN. Y0	BDFLAP	.000	SPDBRK	.55.000
BREF	936.6800 INCHES	ZMRP	.375.0000 IN. Z0	RUDDER	.000	AIRRON	.000
SCALE	.0200						
MACH	BETA	ALPHA	CN	CLM	CBL	CY	CD
3.500	-6.150	11.27354	.25755	-.01274	.01062	-.00236	.23432
3.500	-4.119	11.27177	.25604	-.01038	.00587	-.00096	.23282
3.500	-3.087	11.27262	.25605	-.00962	.00469	.00030	.23285
3.500	-2.035	11.27243	.25622	-.00902	.00327	.00027	.23301
3.500	-1.047	11.27299	.25691	-.00893	.00184	.00023	.23373
3.500	- .526	11.27242	.25622	-.00876	.00118	.00028	.23307
3.500	-.003	11.27319	.25614	-.00860	.00046	.00024	.23302
3.500	.492	11.27151	.25614	-.00851	.00029	.00020	.23302
3.500	.988	11.27267	.25661	-.00862	.00115	.00029	.23344
3.500	2.014	11.27275	.25698	-.00932	.00253	.00026	.23344
3.500	3.041	11.27219	.25664	-.00928	.00397	.00018	.23376
3.500	4.087	11.27444	.25793	-.00997	.00608	.00146	.23347
	GRADIENT	.00015	.00005	.00005	.00151	.00015	.00017

PARAMETRIC DATA

RUN NO.	RNL	2.00	GRADIENT INTERVAL	-5.00/ 5.00				
MACH	BETA	ALPHA	CN	CLM	CBL	CY	CD	L/D
3.500	-6.150	11.27354	.25755	-.01274	.01062	-.00236	.23432	.65012
3.500	-4.119	11.27177	.25604	-.01038	.00587	-.00096	.23282	.64215
3.500	-3.087	11.27262	.25605	-.00962	.00469	.00030	.23285	.64366
3.500	-2.035	11.27243	.25622	-.00902	.00327	.00027	.23301	.64396
3.500	-1.047	11.27299	.25691	-.00893	.00184	.00023	.23373	.64977
3.500	- .526	11.27242	.25622	-.00876	.00118	.00028	.23307	.64770
3.500	-.003	11.27319	.25614	-.00860	.00046	.00024	.23302	.64963
3.500	.492	11.27151	.25614	-.00851	.00029	.00020	.23302	.64889
3.500	.988	11.27267	.25661	-.00862	.00115	.00029	.23344	.64940
3.500	2.014	11.27275	.25698	-.00932	.00253	.00026	.23376	.64786
3.500	3.041	11.27219	.25664	-.00928	.00397	.00018	.23347	.64909
3.500	4.087	11.27444	.25793	-.00997	.00608	.00146	.23476	.65725
	GRADIENT	.00015	.00005	.00005	.00151	.00015	.00017	.00001

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LA125 (LARC UPWT 1243)

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LARC UPWT 1243(LA125)SS ORBITER 102

REFERENCE DATA

SREF =	2690.0000	SQ.FT.	XMRP =	1076.6800 IN.	XO
LREF =	479.8100	INCHES	YMRP =	.0000 IN.	YO
BREF =	936.6800	INCHES	ZMRP =	375.0000 IN.	ZO
SCALE =	.0200				

	RUN NO.	29 / 0	RN/L =	2.00	GRADIENT INTERVAL =	-5.00 / 5.00				
MACH	BETA	ALPHA	CN	CLM	CBL	CYN	CL	CY	CD	L/D
4.000	-6.149	11.79663	.24637	.08722	-.01268	-.01023	.00156	.08591	.22333	.13574
4.000	-4.086	11.79672	.24656	.08688	-.01123	.00668	-.00057	.05580	.22359	.13545
4.000	-3.077	11.79487	.24570	.08657	-.01104	.00487	.00020	.04115	.22282	.13497
4.000	-2.049	11.79560	.24620	.08670	-.01040	.00318	.00059	.02680	.22328	.13519
4.000	-1.044	11.79497	.24557	.08664	-.00998	.00180	.00045	.01366	.22267	.13501
4.000	-.542	11.79588	.24590	.08660	-.00971	.00111	.00042	.00733	.22300	.13504
4.000	-.022	11.79575	.24536	.08662	-.00967	.00034	.00034	.00099	.22247	.13495
4.000	.491	11.79585	.24563	.08650	-.00952	-.00044	.00023	-.00579	.22276	.13489
4.000	.983	11.79598	.24587	.08672	-.00966	-.00103	.00006	-.01149	.22295	.13515
4.000	2.026	11.79433	.24634	.08643	-.01036	-.00239	-.00023	-.02431	.22347	.13496
4.000	3.030	11.79574	.24703	.08617	-.01113	-.00405	.00036	-.03863	.22420	.13485
4.000	4.073	11.79722	.24734	.08649	-.01116	-.00616	.00132	-.05453	.22444	.13523
	GRADIENT	.00005	.00012	-.00005	.00001	-.00151	.00010	-.01321	.00013	-.00003

(RKS023), (21 JUL 81)

PARAMETRIC DATA

ALPHA =	11.800	ELEVON =	.000
BDFLAP =	.000	SPDBRK =	.55.000
RUDDER =	.000	AIRRON =	.000

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LAI25 (LARC UPWT 1243)

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LARC UPWT 1243(LAI25)SSV ORBITER 102

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	X0
LREF	=	474.8100	INCHES	YMRP	=	.0000	IN.	Y0
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN.	Z0
SCALE	=	.0200						

RUN NO.	6 / 0	RNL =	2.00	GRADIENT INTERVAL =	-5.00 / 5.00					
MACH	ALPHA	CN	CLM	CBL	CYN					
2.500	-6.226	12.86490	.38138	-.02266	.01098	.09508	.34704	.19335	1.79490	
2.500	-4.168	12.86670	.37955	-.1244	-.01900	.00667	.00166	.05882	.19414	1.77699
2.500	-3.084	12.89611	.38050	-.11255	-.01816	.00524	.00074	.04482	.19463	1.77665
2.500	-2.079	12.89927	.38155	-.11189	-.01814	.00346	.00077	.02949	.19424	1.78620
2.500	-1.058	12.89775	.38102	-.11183	-.01772	.00181	.00065	.01429	.19406	1.78526
2.500	-.508	12.89979	.38127	-.11189	-.01728	.00087	.00052	.00567	.19419	1.78521
2.500	.000	12.90580	.38139	-.11173	-.01728	.00028	.00029	-.00051	.19409	1.78683
2.500	.482	12.89756	.38161	-.11189	-.01750	-.00063	.00014	-.00805	.19425	1.78642
2.500	1.063	12.89913	.38207	-.11194	-.01777	-.00159	-.00002	-.01690	.1941	1.78716
2.500	2.062	12.89983	.38251	-.11206	-.01811	-.00305	-.00016	-.03128	.19463	1.78721
2.500	3.081	12.90398	.38376	-.11254	-.01838	-.00476	-.00015	-.04646	.19540	1.78576
2.500	4.100	12.90519	.38482	-.11222	-.01918	-.00602	-.00005	-.05908	.19533	1.79200
	GRADICNT		.00290	.00054	-.00001	-.00002	-.00026	-.01449	.00052	.0013

PARAMETRIC DATA

ALPHA	=	12.900	ELEVON	=	.000
BDFLAP	=	.000	SPDBRK	=	.000
RUDDER	=	.000	AIRRON	=	.000
			(RKS025)	(21 JUL 81)	

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LA125 || ABC MAIL || 3431

REFERENCE DATA

LARC UPWT 1243(LA125)SSV ORBITER 102

SREF	2690	0.0000	SQ.FT.	XMRP	1076	.6800	N.	XO
LREF	474	.8100	INCHES	YMRP	375	.0000	N.	YO
BREF	936	.6800	INCHES	ZMRP	375	.0000	N.	ZO
SCALE		.0200						

MACH BETA RUN NO. 14 / 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CL	CD	L/D
3.000	-6.287	14.02548	.37436	.09839	-.02043	.01195	-.00060	.09392	.18618	1.82267	1.82267
3.000	-4.143	14.02591	.37371	.09867	-.01820	.00752	.00073	.05791	.18631	1.81774	1.81774
3.000	-3.124	14.025939	.37329	.09937	-.01648	.00547	.00134	.04184	.18695	1.80811	1.80811
3.000	-2.066	14.03772	.37339	.09921	-.01628	.00391	.00075	.02784	.18682	1.80171	1.80171
3.000	-1.072	14.04043	.37431	.09876	-.01611	.00231	.00048	.01432	.33917	.18662	.18662
3.000	-5.456	14.04055	.37373	.09870	-.01593	.00141	.00037	.00722	.33962	.18642	.18642
3.000	-0.119	14.03796	.37372	.09871	-.01594	.00052	.00017	.00013	.33961	.18642	.18642
3.000	-4.779	14.04204	.37376	.09881	-.01598	-.00033	-.00005	.00750	.33962	.18655	.18655
3.000	1.014	14.04318	.37395	.09890	-.01607	-.00114	-.00015	.01392	.33878	.18669	.18669
3.000	1.951	14.04470	.37478	.09920	-.01630	-.00279	-.00031	.02758	.33950	.18718	.18718
3.000	3.060	14.04569	.37428	.09917	-.01649	-.00432	-.00088	.04144	.33903	.18702	.18702
3.000	4.094	14.03673	.37537	.09857	-.01789	-.00628	-.00038	.05735	.34025	.18667	.18667
		GRAD/CNT	.00113	.00002	-.00001	-.00165	-.00023	-.01389	.00019	.00004	.00004

PARAMETRIC DATA

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LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

	REFERENCE DATA				PARAMETRIC DATA									(RK5027)	PAGE 32
	SREF	LREF	BREF	SCALE	XMRP	YMRP	ZMRP		ALPHA	14.800	ELEVON	.000	21 JUL 81		
	2690.0000	474.8100	936.6800	.0200	INCHES	INCHES	INCHES		BOFLAP	.000	SPDBRK	.000			
									RUDER	.000	AIRRON	.000			
MACH	BETA	ALPHA	CN	CN	CLM	CBL	CYN	CY	CD	CL	CD	L/D			
3.500	-6.155	14.77163	.36605	.08960	-.01394	.01174	.00027	.08642	.17997	.33110	.17997	1.83976			
3.500	-4.082	14.76991	.36685	.08932	-.01275	.00765	.00064	.05546	.33196	.33147	.33147	1.84531			
3.500	-3.088	14.76912	.36637	.08944	-.01196	.00557	.00116	.04057	.33147	.33167	.33167	1.84264			
3.500	-2.036	14.76976	.36668	.08979	-.01128	.00350	.00126	.02584	.17989	.18031	.18031	1.83948			
3.500	-1.031	14.76902	.36664	.08961	-.01116	.00210	.00090	.01444	.33168	.33168	.33168	1.84147			
3.500	-545	14.76837	.36664	.08962	-.01083	.00122	.00069	.00708	.33168	.33168	.33168	1.84147			
3.500	-021	14.76817	.36684	.08959	-.01079	.00036	.00038	.00029	.33168	.33168	.33168	1.84145			
3.500	-492	14.76659	.36656	.08972	-.01089	.00039	.00015	.00591	.33158	.33158	.33158	1.84235			
3.500	.987	14.76579	.36717	.08970	-.01115	.00118	-.00009	-.01230	.33219	.33219	.33219	1.84025			
3.500	2.034	14.76542	.36708	.08965	-.01116	-.00257	-.00079	-.02465	.18032	.18032	.18032	1.84224			
3.500	3.041	14.76623	.36820	.08925	-.01178	-.00443	-.00078	-.03812	.18024	.18024	.18024	1.84257			
3.500	4.088	14.76461	.36762	.08881	-.01241	-.00677	-.00012	-.05415	.33330	.33330	.33330	1.85016			
	GRADICNT	-.00069	.00016	-.00004	.00003	-.00023	-.00017	-.00017	.17957	.17957	.17957	.17957			
									-.00001						

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LA125 (LARC UPWT 1243)

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 LARC UPWT 1243(LA125)SSV ORBITER 102
 REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	X0
LREF	=	474.8100	INCHES	YMRP	=	.0000	IN.	Y0
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN.	Z0
SCALE	=	.0200						

MACH	BETA	RUN NO.	RNL	GRADIENT INTERVAL = -5.00 / 5.00	CBL	CBL	CYN	CY	CD	L/D	
4.000	-6.154	15.43499	CN	CLM	-.01395	.01108	.00160	.08073	.32248	.17640	
4.000	-4.107	15.43620	CA	08421	-.01309	.00763	.00090	.05315	.32416	.18284	
4.000	-3.096	15.43523		08374	-.01272	.00581	.00102	.03909	.32374	.18376	
4.000	-2.010	15.43617		08370	-.01211	.00363	.00148	.02412	.32380	.17622	
4.000	-1.025	15.43684		08395	-.01181	.00207	.00097	.01240	.32479	.17642	
4.000	- .524	15.43695		08401	-.01163	.00131	.00067	.00681	.32425	.17664	
4.000	- .021	15.43778		08393	-.01136	.00044	.00036	.00067	.32422	.17669	
4.000	.531	15.43668		08394	-.01153	-.00041	-.00014	-.00573	.32417	.18358	
4.000	.984	15.43464		08391	-.01163	-.00106	-.00045	-.01090	.32378	.17649	
4.000	1.999	15.43355		08394	-.01198	-.00256	-.00119	-.02223	.32422	.18367	
4.000	3.030	15.43655		083074	-.01240	-.00455	-.00077	-.03633	.32557	.17627	
4.000	4.055	15.43687		083031	-.01280	-.00647	-.00056	-.05059	.32512	.18469	
	GRADIENT	-.00001		.00006	-.00004	-.00169	-.00030	-.01240	.00016	-.00002	.00105

(RK5028) (21 JUL 81)

PARAMETRIC DATA

ALPHA	=	15.400	ELEVON	=	.000
BOFLAP	=	.000	SPDBRK	=	.55.000
RUDDER	=	.000	AIRRON	=	.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

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(RKS029) (21 JUL 81)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

	SREF	2690.0000 SQ.FT.	XMRP	1076.6800 IN.	X0
LREF	474.8100 INCHES	YMRP	.0000 IN.	Y0	
BREF	936.6800 INCHES	ZMRP	.375.0000 IN.	Z0	
SCALE	.0200				

	RUN NO.	39/ 0	RN/L	- 2.00	GRADIENT INTERVAL	- 5.00 /	5.00			
MACH	BETA	ALPHA	CN	CA	CLM	CBL	CY	CL	CD	L/D
4.500	-6.105	16.24170	.35927	.07641	-.01321	.01025	.00233	.52356	.17384	.86119
4.500	-4.069	16.24189	.36064	.07581	-.01270	.00744	.00126	.32505	.17365	.87186
4.500	-3.063	16.23937	.36103	.07568	-.01258	.00567	.00124	.32547	.17362	.87458
4.500	-2.020	16.23395	.36097	.07531	-.01273	.00350	.00165	.32552	.17322	.87922
4.500	-1.021	16.23258	.36095	.07538	-.01225	.00176	.00135	.32549	.17327	.87848
4.500	- .521	16.23257	.36161	.07555	-.01250	.00116	.00078	.32607	.17362	.87805
4.500	- .02	16.23023	.36144	.07525	-.01244	.00034	.00033	.32601	.17328	.88143
4.500	.489	16.22905	.36121	.07545	-.01235	-.00035	-.00008	.32573	.17339	.87859
4.500	.999	16.22759	.36106	.07530	-.01250	-.00102	-.00044	.32563	.17320	.88006
4.500	2.017	16.22828	.36104	.07506	-.01284	-.00259	-.00105	.32568	.17297	.88288
4.500	3.035	16.22704	.36048	.07458	-.01259	-.00457	-.00079	.32528	.17234	.88742
4.500	4.075	16.22976	.36068	.07483	-.01290	-.00651	-.00066	.32540	.17265	.88478
	GRAD INT	-.00175	-.00002	-.00013	-.00166	-.00035	-.01135	.00002	-.00014	.00162

PARAMETRIC DATA

	ALPHA	16.200	ELEVON	.000
BDFLAP	-.000	SPDBRK	.55.000	
RUDDER	-.000	AIRRON	.000	

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LA125 (LARC UPNT 1243)

LARC UPNT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF =	2690.0000	SQ. FT.	XMRP =	1076.6800	IN. X0
LREF =	474.8100	INCHES	YMRP =	.0000	IN. Y0
BREF =	936.6800	INCHES	ZMRP =	375.0000	IN. Z0
SCALE =	.0200				

MACH	BETA	ALPHA	CN	CA	CLM	UBL	CYN	CY	CL	CD	L/D
2.500	-6.237	15.89095	.49309	.10488	-.02895	.01194	.00285	.09229	.44553	.23588	1.88880
2.500	-4.174	15.99908	.49279	.10648	-.02527	.00672	.00422	.05460	.44477	.23740	1.87350
2.500	-3.109	15.90114	.49305	.10816	-.02392	.00496	.00355	.04012	.44455	.23911	1.85917
2.500	-2.043	15.89910	.49281	.10784	-.02337	.00332	.00257	.02591	.44442	.23872	1.86167
2.500	-1.059	15.89713	.49192	.10750	-.02308	.00172	.00148	.01249	.44367	.23813	1.86314
2.500	-.493	15.89770	.49219	.10767	-.02282	.00100	.00097	.00501	.44388	.23837	1.86213
2.500	-.019	15.89849	.49211	.10745	-.02265	.00023	.00044	-.00107	.44386	.23815	1.86378
2.500	.502	15.89802	.49258	.10736	-.02271	-.00061	-.00012	-.00779	.44433	.23819	1.86546
2.500	1.042	15.89899	.49305	.10736	-.02284	-.00140	-.00070	-.01450	.44478	.23832	1.86630
2.500	2.044	15.89777	.49388	.10778	-.02326	-.00284	-.00179	-.02735	.44546	.23894	1.86434
2.500	3.084	15.88999	.49348	.10843	-.02373	-.00450	-.00268	-.04123	.44493	.23940	1.85859
2.500	4.163	15.88708	.49409	.10678	-.02499	-.00617	-.00346	-.05541	.44599	.23795	1.87428
	GRADIENT		.00131	.00016	.00003	-.00153	-.00097	-.01315	.00015	.00006	.00006
											.000018

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(RKS030) (21 JUL 81)

PARAMETRIC DATA

ALPHA =	15.900	ELEVON =	.000	L/D =	1.88880
BOFLAP =	.000	SPDBRK =	.000		
RUDDER =	.000	AILRDN =	.000		

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243:LA125:SSV ORBITER 102

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REFERENCE DATA

SREF	2690.0000	SQ. FT.	XMRP	=	1076.6800	IN.	XO				
LREF	474.8100	INCHES	YMRP	=	.0000	IN.	YO				
BREF	936.6800	INCHES	ZMRP	=	375.0000	IN.	ZO				
SCALE	.0200										

	RUN NO.	15/ 0	RNL =	2.00	GRADIENT INTERVAL =	-5.00/ 5.00					
MACH	BETA	ALPHA	CN	CLM	CBL	CYN	CL	CD	L/D		
3.000	-6.233	17.25249	.48617	.09365	-.02522	.01247	.00215	.43652	.23363	1.86847	
3.000	-4.166	17.25290	.48645	.09385	-.02389	.00812	.00248	.43672	.23390	1.86714	
3.000	-3.107	17.25372	.48617	.09458	-.02269	.00593	.00272	.43624	.23452	1.86011	
3.000	-2.067	17.25302	.48576	.09511	-.02177	.00405	.00220	.43569	.23490	.85579	
3.000	-1.035	17.25038	.48528	.09504	-.02168	.00237	.00140	.43527	.23468	.85475	
3.000	-.566	17.25224	.48604	.09492	-.02144	.00152	.00095	.43602	.23480	.85700	
3.000	-.001	17.25081	.48637	.09477	-.02149	.00074	.00025	.43639	.23474	.85900	
3.000	.499	17.25010	.48663	.09480	-.02160	-.00025	-.00037	.43663	.23484	.85924	
3.000	.997	17.24903	.48575	.09493	-.02143	-.00112	-.00089	.43575	.23470	.85663	
3.000	2.029	17.24842	.48624	.09522	-.02162	-.00278	-.00155	.43614	.23511	.85503	
3.000	3.063	17.24848	.48759	.09446	-.02249	-.00446	-.00235	.43766	.23479	.86400	
3.000	4.097	17.24531	.48768	.09360	-.02386	-.00663	-.00216	.43801	.23397	.87207	
	GRADIENT	-.00093	.00017	-.00002	-.00002	-.00174	-.00018	.00003	.00003	.00003	

	PARAMETRIC DATA			(RKS031)	(21 JUL 81)
ALPHA	=	17.200	ELEVON =	.000	.000
BOFLAP	=	.000	SPDBRK =	.55.000	.000
RUDDER	=	.000	ATLRON =		

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102
 REFERENCE DATA
 SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. X0
 LREF = 474.8100 INCHES YMRP = 0000 IN. Y0
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. Z0
 SCALE = .0200

	RUN NO.	24 / 0	RN/L =	2.00	GRADIENT INTERVAL =	-5.00/ 5.00
MACH	BETA	ALPHA	CN	CL _M	CBL	CYN
3.500	-6.160	18.19352	.48117	.08536	-.01813	.00163
3.500	-4.104	18.19252	.48183	.08510	-.01734	.00799
3.500	-3.090	18.19401	.48178	.08541	-.01671	.00569
3.500	-2.039	18.19308	.48140	.08626	-.01542	.00357
3.500	-1.050	18.18722	.48114	.08630	-.01475	.00264
3.500	-.546	18.18453	.48072	.08622	-.01486	.00206
3.500	-.022	18.18664	.48171	.08615	-.01479	.00130
3.500	.492	18.18151	.48094	.08621	-.01472	.00048
3.500	1.008	18.17960	.48143	.08626	-.01494	-.00022
3.500	2.035	18.18030	.48239	.08603	-.01519	-.0007
3.500	3.043	18.17710	.48223	.08521	-.01639	-.00254
3.500	4.091	18.17650	.48288	.08477	-.01730	-.00452
GRADIENT		-.00241	.00013	-.00004	.00002	-.00002

	ALPHA =	18.200	FLEVON =	18.200
BDFLAP =	.000	SPOBRK =	.000	
RUDDER =	.000	AILRDN =	.000	

(RK5032) (21 JUL 81)

PARAMETRIC DATA

	CD =	CL =	L/D
	.23133	.43046	.86082
	.23128	.43117	.86428
	.23157	.43103	.86131
	.23225	.43041	.85322
	.23216	.43016	.85285
	.23194	.42981	.85311
	.23219	.43075	.85516
	.23198	.43003	.85376
	.23216	.43049	.85430
	.23224	.43147	.85782
	.23139	.43158	.86516
	.23117	.43234	.87021
	-.00002	-.00014	.00002

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

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(RKS034) (21 JUL 81)

REFERENCE DATA

SREF	2690.0000 SQ.FT.	XMRP	1076.6800 IN. X0
LREF	.474.8100 INCHES	YMRP	.00000 IN. Y0
BREF	.936.6800 INCHES	ZMRP	.375.0000 IN. Z0
SCALE	.0200		

REFERENCE DATA		RUN NO.	40/ 0	RNL =	2.00	GRADIENT INTERVAL =	-5.00/ 5.00				
MACH	BETA	ALPHA	CN	CA	CLM	CBL	CYN	CY	CD	L/D	
4.500	.6.128	19.93008	.48248	.07406	-.01657	.01097	.00499	.06894	.42834	.23409	
4.500	-4.071	19.93045	.48284	.07353	-.01585	.00780	.00301	.04564	.42886	.23372	
4.500	-3.065	19.92836	.48301	.07328	-.01577	.00595	.00265	.03395	.42911	.23353	
4.500	-2.022	19.92876	.48302	.07320	-.01513	.00386	.00258	.02099	.42914	.23345	
4.500	-1.021	19.92877	.48337	.07325	-.01515	.00214	.00167	.01050	.42946	.23362	
4.500	- .522	19.92833	.48392	.07317	-.01529	.00136	.00087	.00639	.43000	.23373	
4.500	- .003	19.92594	.48342	.07290	-.01558	.00054	.00033	.00125	.42964	.23329	
4.500	.508	19.92354	.48379	.07305	-.01550	-.00039	-.00011	-.00398	.42994	.23354	
4.500	.998	19.92393	.48393	.07316	-.01547	-.00113	-.00069	-.00847	.43003	.23369	
4.500	2.017	19.92469	.48437	.07295	-.01545	-.00263	-.00195	-.01810	.43051	.23365	
4.500	3.036	19.92303	.48397	.07268	-.01613	-.00462	-.00224	-.03007	.43024	.23325	
4.500	4.076	19.92552	.48468	.07271	-.01631	-.00661	-.00253	-.04254	.43089	.23353	
	GRAD:CNT	-.00083	.00022	-.00009	-.00006	-.00173	-.00079	-.01052	.00024	-.00002	.00119

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	=	2690.0000 SO.FT.	XMRP	=	1076.6800 IN. X0
LREF	=	474.8100 INCHES	YMRP	=	.0000 IN. Y0
BREF	=	936.6800 INCHES	ZMRP	=	375.0000 IN. Z0
SCALE	=	.0200			

RUN NO.	45/ 0	RN/L = 2.00	GRADIENT INTERVAL = -5.00/ 5.00
MACH	ALPHA	Q(PSF)	RN/L
4.500	-1.441	243.79014	1.99972
4.500	.277	243.57290	1.99794
4.500	2.053	243.50049	1.99734
4.500	3.739	243.50049	1.99734
4.500	5.315	243.71773	1.99912
4.500	6.897	242.63156	1.99021
4.500	8.509	243.93496	2.00091
4.500	9.984	243.93496	2.00091
4.500	11.660	243.93496	2.00091
4.500	13.208	242.48673	1.98903
4.500	14.714	242.48673	1.98903
4.500	16.099	244.36943	2.00447
4.500	17.640	243.42808	1.99675
4.500	19.122	243.21085	1.99497
4.500	20.726	243.93496	2.00091
GRADIENT		- .05444	- .00045
			- .00022
			- .0004

PARAMETRIC DATA

BETA	= .000	ELEVON = .000
BOFLAP	= .000	SPDBRK = .000
RUDDER	= .000	AIRRON = .000

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(SK9001) (21 JUL 81)

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

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LARC UPWT 1243 (LA125) SSV ORBITER 102

REFERENCE DATA

SREF	=	2690.00000	SO.FT.	XMRP	=	1076.6800	IN. X0
LREF	=	.474 .8100	INCHES	YMRP	=	.0000	IN. Y0
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN. Z0
SCALE	=	.0200					

RUN NO. 46 / 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00 / 5.00

MACH	ALPHA	Q(PSF)	RN/L	CPC2	CPB1	CPB2	CPB3	CPB4
4.500	-1.256	243.50049	1.99734	-0.03417	-0.05421	-0.03061	-0.05117	-.05009
4.500	.292	243.42808	1.99675	-0.03537	-0.05661	-0.03181	-0.05298	-.05129
4.500	1.997	243.57290	1.99794	-0.03358	-0.04522	-0.03002	-0.05057	-.05009
4.500	3.653	243.64531	1.99853	-0.03359	-0.05362	-0.03003	-0.05058	-.05010
4.500	5.325	243.57290	1.99794	-0.03418	-0.05482	-0.02881	-0.05118	-.05009
4.500	6.861	243.42808	1.99675	-0.03416	-0.05481	-0.02939	-0.05177	-.05008
4.500	8.527	243.57290	1.99794	-0.03418	-0.05482	-0.02942	-0.05118	-.05009
4.500	10.081	243.50049	1.99734	-0.03538	-0.05541	-0.03122	-0.05238	-.05130
4.500	11.556	243.57290	1.99794	-0.03478	-0.05542	-0.03123	-0.05299	-.05130
4.500	13.122	243.57290	1.99794	-0.03599	-0.05662	-0.03244	-0.05359	-.05251
4.500	14.733	243.64531	1.99853	-0.03600	-0.05722	-0.03245	-0.05360	-.05251
4.500	16.106	243.57290	1.99794	-0.03599	-0.05722	-0.03244	-0.05420	-.05251
4.500	17.708	243.42808	1.99675	-0.03658	-0.05781	-0.03302	-0.05419	-.05310
4.500	19.117	243.42808	1.99675	-0.03597	-0.05721	-0.03302	-0.05358	-.05310
4.500	20.674	243.64531	1.99853	-0.03540	-0.05782	-0.03305	-0.05420	-.05251
GRADIENT	.03575	.00029	.00029	.00022	.00026	.00022	.00026	.00008

(SKS002)

PARAMETRIC DATA

BETA	=	2.000	ELEVON = 2.000
BOFLAP	=	.000	SPDBRK = .000
RUDDER	=	.000	AIRRON = .000

(21 JUL 81)

(21 JUL 81)

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102
 REFERENCE DATA
 SREF = 2690.0000 SQ.FT.
 LREF = 474.8100 INCHES
 BREF = 936.6800 INCHES
 SCALE = .0200

SREF	2690.0000 SQ.FT.	XMRP	1076.6800 IN.	XO
LREF	474.8100 INCHES	YMRP	0.000 IN.	YO
BREF	936.6800 INCHES	ZMRP	375.000 IN.	ZO
SCALE	.0200			

RUN NO.	1 / 0	RN/L	= 2.00	GRADIENT INTERVAL = -5.00 / 5.00
MACH	ALPHA	Q(PSF)	RN/L	CPC1 CPC2 CPB1 CPB2 CPB4
2.500	-1.109	434.78738	1.99968	-1.4277 -1.5372 -.14144 -.14753
2.500	.219	435.37631	2.00239	-1.4235 -.14221 -.15383 -.15677
2.500	1.517	435.81161	2.00439	-1.3772 -.14027 -.15021 -.14130
2.500	2.920	435.96525	2.00510	-1.3674 -.13996 -.15191 -.14056
2.500	4.166	435.83722	2.00451	-1.3604 -.13926 -.15256 -.14063
2.500	5.479	435.55556	2.00322	-1.3564 -.13954 -.15218 -.14024
2.500	6.759	435.86283	2.00463	-1.3503 -.14129 -.15324 -.14396
2.500	7.992	435.63237	2.00357	-1.3430 -.14361 -.15324 -.14751
2.500	9.228	435.73480	2.00404	-1.3365 -.14667 -.15825 -.14837
2.500	10.534	435.70919	2.00392	-1.4444 -.15140 -.16160 -.15926
2.500	11.691	435.24829	2.00180	-1.5449 -.15537 -.16422 -.15882
2.500	12.920	435.60677	2.00345	-1.5566 -.15780 -.16897 -.15912
2.500	14.078	435.50434	2.00298	-1.5453 -.15913 -.16862 -.16121
2.500	15.350	435.22268	2.00169	-1.5391 -.16078 -.16925 -.16288
2.500	16.488	435.32510	2.00216	-1.5281 -.16350 -.17229 -.15812
GRADIENT	.20331	.00094	.00080	.00070 .00032 .00134 .00050
RUN NO.	9 / 0	RN/L	= 2.00	GRADIENT INTERVAL = -5.00 / 5.00

RUN NO.	9 / 0	RN/L	= 2.00	GRADIENT INTERVAL = -5.00 / 5.00
MACH	ALPHA	Q(PSF)	RN/L	CPC1 CPC2 CPB1 CPB2 CPB4
3.000	-1.034	380.09871	2.00034	-.10000 -.10602 -.11664 -.09830 -.10932
3.000	.381	380.08155	2.00025	-.09883 -.10679 -.11780 -.10100 -.1087
3.000	1.901	380.01295	1.99989	-.09766 -.10407 -.11394 -.09712 -.10642
3.000	3.287	380.11586	2.00043	-.09613 -.10292 -.11434 -.09559 -.10605
3.000	4.673	379.82429	1.99890	-.09531 -.10249 -.11623 -.09476 -.10639
3.000	6.043	380.01295	1.99989	-.09457 -.10175 -.11702 -.09441 -.10892
3.000	7.424	379.89289	1.99926	-.09339 -.10444 -.11816 -.09322 -.10834
3.000	8.751	379.78999	1.99872	-.09105 -.10559 -.11815 -.09282 -.10833
3.000	10.072	379.80714	1.99881	-.09066 -.10830 -.12008 -.10019 -.11220
3.000	11.400	379.89289	1.99926	-.08835 -.11141 -.12316 -.09749 -.11393
3.000	12.763	380.03010	1.99998	-.08722 -.11337 -.12476 -.10526 -.11704
3.000	14.051	379.92720	1.99944	-.08643 -.11491 -.12548 -.10679 -.11937
3.000	15.379	379.92720	1.99944	-.08555 -.11529 -.12548 -.10641 -.11920
3.000	16.654	379.91005	1.99935	-.08467 -.11684 -.12624 -.10563 -.12207
3.000	17.886	379.53272	1.99736	-.08441 -.11874 -.12737 -.10907 -.12265
GRADIENT	-.35570	-.00019	.00084	.00077 .00031 .00088 .00058 .00031

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(SKS003) (21 JUL 81)

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(SKS003) (21 JUL 81)

DATE 21 JUL 81

LA125 (LARC UPHT 1243)

LARC JPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	= 2690.0000	SQ.FT.	XMRP = 1076.6800	IN. X0	
LREF	= 474.8100	INCHES	YMRP = .0000	IN. Y0	
BREF	= 936.6800	INCHES	ZMRP = 375.0000	IN. Z0	
SCALE	= .0200				

RUN NO.	18/ 0	RNL =	2.01	GRADIENT INTERVAL =	-5.00/ 5.00
MACH	ALPHA	Q(PSF)	RNL	CPC1	CPB1
3.500	-1.277	.224.27071	2.00191	-.07135	-.08070
3.500	.242	.323.73107	1.99657	-.07264	-.08064
3.500	1.785	.323.30385	1.99594	-.06894	-.07923
3.500	3.289	.322.85414	1.99316	-.07115	-.07918
3.500	4.804	.322.98905	1.99299	-.07026	-.07828
3.500	6.262	.324.73166	2.00475	-.07005	-.07849
3.500	7.708	.324.94527	2.00607	-.07009	-.07851
3.500	9.138	.325.11391	2.00711	-.06875	-.07989
3.500	10.552	.325.26006	2.00801	-.06719	-.08081
3.500	11.958	.325.03521	2.00663	-.07281	-.06215
3.500	13.373	.324.18077	2.00135	-.07451	-.08342
3.500	14.762	.325.56361	2.00989	-.07650	-.08492
3.500	16.139	.325.81095	2.01141	-.07698	-.08579
3.500	17.495	.326.02456	2.01273	-.07700	-.08632
3.500	18.841	.325.36125	2.00864	-.07873	-.08761
GRADIENT	- .22636	- .00140	.00024	.00041	.00011
RUN NO.	25/ 0	RNL =	2.00	GRADIENT INTERVAL =	-5.00/ 5.00
MACH	ALPHA	Q(PSF)	RNL	CPC1	CPB1
4.000	-1.284	.291.07345	2.00362	-.04845	-.06040
4.000	.331	.290.95542	2.00281	-.05248	-.06090
4.000	1.929	.290.64561	2.00068	-.04485	-.05884
4.000	3.562	.290.80052	2.00174	-.04336	-.05784
4.000	5.052	.290.97018	2.00291	-.04136	-.05887
4.000	6.562	.290.83002	2.00195	-.03982	-.05936
4.000	8.090	.290.91854	2.00255	-.04712	-.05888
4.000	9.585	.290.85215	2.00210	-.05095	-.05886
4.000	11.059	.290.90379	2.00245	-.05095	-.05735
4.000	12.527	.290.98493	2.00301	-.05197	-.05938
4.000	13.959	.291.04394	2.00342	-.05198	-.06141
4.000	15.417	.290.97755	2.00296	-.05319	-.06242
4.000	16.819	.290.94805	2.00276	-.05349	-.06292
4.000	18.230	.290.85953	2.00215	-.05499	-.06392
4.000	19.617	.290.80052	2.00174	-.05498	-.06493
GRADIENT	- .07097	- .00049	.00143	.00010	.00010

PARAMETRIC DATA

	BETA	ELEVON	PSPBRK	AIRRON
BDFLAP	=	.000	.000	.000
RUDDER	=	.000	.000	.000

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(SKS003) (21 JUL 81)

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF =	2690 0000 SQ.FT.	XMRP =	1076.6800 IN.
LREF =	474.8000 INCHES	YMRP =	.0000 IN.
BREF =	936.6800 INCHES	ZMRP =	.375.0000 IN.
SCALE =	.0200		Z0

RUN NO. 34 / 0 RN/L - 2.00 GRADIENT INTERVAL = -5.00 / 5.00

MACH	ALPHA	O(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3	CPB4
4.500	-1.259	243.72080	1.99915	-0.3445	-0.04451	-0.05950	-0.05644	-0.04577	-0.05021
4.500	.392	244.01045	2.00153	-0.3449	-0.04393	-0.06071	-0.06770	-0.04700	-0.05083
4.500	2.087	243.79322	1.99974	-0.3265	-0.04391	-0.05891	-0.02705	-0.04517	-0.05021
4.500	3.724	243.64839	1.99856	-0.3262	-0.04389	-0.05950	-0.02763	-0.04516	-0.04960
4.500	5.369	243.57598	1.99796	-0.3382	-0.04509	-0.06010	-0.02822	-0.04636	-0.05080
4.500	6.954	243.79322	1.99974	-0.3385	-0.04451	-0.06071	-0.02826	-0.04638	-0.05081
4.500	8.553	243.72080	1.99915	-0.3384	-0.04451	-0.06070	-0.02885	-0.04698	-0.05081
4.500	10.122	243.79322	1.99974	-0.3325	-0.04512	-0.06130	-0.02947	-0.04819	-0.05142
4.500	11.690	243.50357	1.99737	-0.3381	-0.04509	-0.06129	-0.03003	-0.04756	-0.05140
4.500	13.213	244.01045	2.00153	-0.3449	-0.04514	-0.06191	-0.02951	-0.04821	-0.05144
4.500	14.737	243.86563	2.00034	-0.3507	-0.04694	-0.06251	-0.03009	-0.04880	-0.05203
4.500	16.267	243.86563	2.00034	-0.3507	-0.04573	-0.06251	-0.03009	-0.04880	-0.05142
4.500	17.715	243.86563	2.00034	-0.3507	-0.04633	-0.06251	-0.03009	-0.04941	-0.05142
4.500	19.193	244.08286	2.00212	-0.3570	-0.04635	-0.06251	-0.03012	-0.04942	-0.05204
4.500	20.665	243.86563	2.00034	-0.3507	-0.04694	-0.06251	-0.03009	-0.04941	-0.05203
	GRADIENT	- .02621	- .000021	.000044	.00011	.00011	.00017	.00022	.00015

(SKS003) (21 JUL 81)

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PARAMETRIC DATA

BETA =	.000	ELEVON =	.000
BOFLAP =	.000	SPDBRK =	.000
RUDDER =	.000	AIRRON =	.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102 (INVERTED)
 REFERENCE DATA
 (SKS004) (21 JUL 81)

SREF	2690.000	SQ.FT.	XMRP	1076.6800	IN.	X0	BETA	.000	ELEVON	.000
LREF	474.810	INCHES	YMRP	.0000	IN.	Y0	BDFLAP	.000	SPDBRK	.000
BREF	936.680	INCHES	ZMRP	.0000	IN.	Z0	RUDDER	.000	AIRLN	.000
SCALE	.0200									
MACH	ALPHA	Q(PSF)	RNL	2.00	GRADIENT INTERVAL =	-5.00/ 5.00				
4.000	-4.866	290.97018	2.00291	-0.04995	-0.05989	-0.07149	-0.03817	-0.06094	-0.06416	
4.000	-3.823	291.05132	2.00347	-0.05148	-0.06040	-0.07200	-0.03920	-0.06196	-0.06518	
4.000	-2.788	290.65299	2.00073	-0.05193	-0.06137	-0.07298	-0.03963	-0.06294	-0.06565	
4.000	-1.762	290.43170	1.99920	-0.05140	-0.06034	-0.07297	-0.04010	-0.06241	-0.06513	
4.000	-719	290.46120	1.99941	-0.05090	-0.05983	-0.07297	-0.04010	-0.06190	-0.06513	
4.000	-318	290.53497	1.99991	-0.05091	-0.05984	-0.07197	-0.04265	-0.06191	-0.06463	
4.000	1.351	291.11770	2.01393	-0.05149	-0.05889	-0.07301	-0.04174	-0.06197	-0.06518	
4.000	2.388	290.36531	1.99875	-0.05190	-0.05982	-0.07347	-0.04263	-0.06291	-0.06563	
4.000	2.892	290.80789	2.00179	-0.05195	-0.06037	-0.07349	-0.04371	-0.06244	-0.06516	
GRADIENT	-0.02964	-0.00020	-0.00013	-0.00009	-0.00019	-0.00065	-0.00065	-0.00011	-0.00007	

RUN NO.	32/ 0	RNL	2.00	GRADIENT INTERVAL =	-5.00/ 5.00					
MACH	ALPHA	Q(PSF)	RNL	CPC1	CPC2	CPB1	CPB2	CPB3	CPB4	
4.500	-5.248	243.64839	1.99856	-0.03262	-0.04329	-0.05830	-0.02521	-0.04576	-0.04899	
4.500	-4.230	243.50357	1.99737	-0.03321	-0.04388	-0.05889	-0.02579	-0.04635	-0.04958	
4.500	-3.191	243.50357	1.99737	-0.03291	-0.04509	-0.05949	-0.02610	-0.04696	-0.05079	
4.500	-2.171	243.57598	1.99796	-0.03382	-0.04449	-0.05950	-0.02641	-0.04636	-0.05080	
4.500	-1.139	243.50357	1.99737	-0.03391	-0.04448	-0.06009	-0.02640	-0.04696	-0.05019	
4.500	-1.111	243.86563	2.00034	-0.03326	-0.04392	-0.05891	-0.02526	-0.04639	-0.04961	
4.500	.926	243.43116	1.99677	-0.03380	-0.04387	-0.05949	-0.02699	-0.04695	-0.05018	
4.500	1.950	243.64839	1.99856	-0.03233	-0.04389	-0.05950	-0.02642	-0.04637	-0.05020	
4.500	2.485	243.72080	1.99915	-0.03324	-0.04390	-0.05890	-0.02704	-0.04637	-0.04960	
GRADIENT	.02559	.00021	.00004	.00010	.00001	.00001	.00002	.00001	.00006	

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

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LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN. X0
LREF	474.8100	INCHES	YMRP	=	.0000	IN. Y0
BREF	936.6800	INCHES	ZMRP	=	.0000	IN. Z0
SCALE	.0200					

RUN NO.	2/ 0	RN/L	=	2.00	GRADIENT INTERVAL	=	-5.00/ 5.00
MACH	ALPHA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2
2.500	-1.119	435.78601	2.00428	-1442	-14330	-15490	-14772
2.500	.176	433.99360	1.99603	-14072	-14261	-15392	-14671
2.500	1.436	433.94239	1.99580	-14004	-14226	-15459	-14670
2.500	.2864	433.66072	1.99450	-13964	-14424	-15623	-14563
2.500	4.168	434.07042	1.99639	-13938	-14602	-15663	-14536
2.500	5.527	434.09602	1.99650	-13837	-14772	-15798	-14503
2.500	6.657	433.94239	1.99580	-13814	-14837	-15897	-14500
2.500	7.967	434.32647	1.99756	-13808	-14810	-16139	-14507
2.500	9.225	433.17421	1.99226	-13716	-14789	-16087	-14451
2.500	10.422	434.09602	1.99650	-13668	-15111	-16304	-14435
2.500	11.661	435.12026	2.00121	-15278	-15637	-16521	-14489
2.500	12.954	435.01783	2.00074	-15884	-15973	-16855	-14487
2.500	14.088	435.12026	2.00121	-16055	-16110	-16957	-16485
2.500	15.347	434.83859	1.99992	-15814	-16241	-17088	-16244
2.500	16.462	435.04344	2.00086	-15716	-16414	-17325	-16146
GRADIENT	-	-28120	-0.00129	.00039	-.000054	-.00044	-.00044
RUN NO.	10/ 0	RN/L	=	2.00	GRADIENT INTERVAL	=	-5.00/ 5.00
MACH	ALPHA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2
3.000	-1.011	380.23591	2.00106	-.09499	-.10565	-.11589	-.09639
3.000	.404	380.13301	2.00052	-.09845	-.10680	-.11626	-.09753
3.000	1.853	380.28737	2.00133	-.09848	-.10604	-.11551	-.09716
3.000	3.258	380.37312	2.00179	-.09733	-.10605	-.11667	-.09718
3.000	4.684	380.25306	2.00115	-.09654	-.10681	-.11820	-.09897
3.000	6.050	380.25306	2.00115	-.09538	-.10759	-.11781	-.09987
3.000	7.373	380.51033	2.00251	-.09504	-.10840	-.11784	-.09875
3.000	8.724	380.40742	2.00197	-.0966	-.10916	-.11860	-.09873
3.000	10.046	380.42457	2.00206	-.10353	-.11109	-.12168	-.0990
3.000	11.392	380.20161	2.00088	-.10465	-.11261	-.12319	-.10373
3.000	12.725	380.23591	2.00106	-.10736	-.11455	-.12435	-.10800
3.000	14.036	380.28737	2.00133	-.10853	-.11611	-.12628	-.10878
3.000	15.341	380.45887	2.00224	-.10971	-.11729	-.12706	-.10880
3.000	16.628	380.44557	2.00206	-.11048	-.11844	-.12783	-.10880
3.000	17.878	380.18446	2.00079	-.11161	-.11997	-.12973	-.11070
GRADIENT	-	.01932	-.00014	.00010	-.00011	-.00035	-.00046

PARAMETRIC DATA
(SKS005) (21 JUL 81)

BETA	=	2.000	ELEVON	=	.000
BDFLAP	=	.000	SPDBRK	=	.000
RUDDER	=	.000	AIRRON	=	.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN. X0
LREF	=	474.8100	INCHES	YMRP	=	.0000	IN. Y0
BREF	=	936.6800	INCHES	ZMRP	=	.375.0000	IN. Z0
SCALE	=	.0200					

LARC UPWT 1243(LA125)SSV ORBITER 102

PARAMETRIC DATA

MACH	ALPHA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3	CPB4	GRADIENT INTERVAL = -5.00/ 5.00		
										BETA	BOFLAP	ELEVON
3.500	-1.266	323.33758	1.99615	-.07076	-.08015	-.09021	-.06607	-.08200	-.08446			
3.500	.264	324.25947	2.00184	-.07135	-.08116	-.08070	-.06757	-.09028	-.08455			
3.500	1.801	324.27071	2.00191	-.06954	-.08028	-.08983	-.06394	-.08983	-.08364			
3.500	3.282	324.54054	2.00357	-.06867	-.08032	-.09033	-.06353	-.08985	-.08723			
3.500	4.761	324.86657	2.00558	-.06739	-.08082	-.09082	-.06721	-.08721	-.08722			
3.500	6.247	325.36125	2.00864	-.06879	-.08147	-.09153	-.06864	-.09082	-.08325			
3.500	7.697	322.92160	1.99558	-.07253	-.08194	-.09153	-.06965	-.08982	-.08466			
3.500	9.132	323.11272	1.99476	-.07301	-.08290	-.09290	-.07059	-.08982	-.08578			
3.500	10.552	323.62988	1.99795	-.07489	-.08336	-.09430	-.07203	-.08982	-.08717			
3.500	11.952	323.67485	1.99823	-.07535	-.08428	-.09565	-.07294	-.08982	-.08812			
3.500	13.362	324.25947	2.00184	-.07633	-.08570	-.09704	-.07393	-.08982	-.08858			
3.500	14.771	324.21450	2.00156	-.07497	-.08433	-.09704	-.07347	-.08982	-.08999			
3.500	16.154	324.27071	2.00191	-.07724	-.08524	-.09795	-.07348	-.08982	-.08999			
3.500	17.506	324.30444	2.00211	-.07634	-.08661	-.09840	-.07439	-.08982	-.09090			
3.500	18.857	324.41687	2.00281	-.07409	-.08753	-.09886	-.07350	-.08982	-.09226			
3.500	GRADIENT	.22185	.00137	.00063	.00004	.00001	.00012	.00013	.00025			
RUN NO.			26/ 0	RN/L	2.00	GRADIENT INTERVAL = -5.00/ 5.00						
MACH	ALPHA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3	CPB4			
4.000	-1.268	290.98493	2.00301	-.05046	-.06039	-.07099	-.03767	-.06517	-.06517			
4.000	.349	291.05869	2.00352	-.05047	-.06091	-.07150	-.03667	-.06518	-.06518			
4.000	1.554	291.02919	2.00332	-.04895	-.06040	-.07099	-.03514	-.06467	-.06467			
4.000	3.477	290.95542	2.00281	-.04944	-.05988	-.07099	-.03463	-.06416	-.06416			
4.000	5.052	290.91116	2.00250	-.05095	-.06039	-.07199	-.03411	-.06416	-.06416			
4.000	6.591	290.89641	2.00240	-.05095	-.06038	-.07199	-.03259	-.06416	-.06416			
4.000	8.078	290.90379	2.00245	-.05146	-.06038	-.07249	-.03816	-.06416	-.06416			
4.000	9.577	290.85215	2.00210	-.05246	-.06089	-.07350	-.04372	-.06567	-.06567			
4.000	11.065	290.71200	2.00113	-.05295	-.06138	-.07399	-.04623	-.06717	-.06717			
4.000	12.542	290.90379	2.00245	-.05348	-.06241	-.07501	-.04727	-.06769	-.06769			
4.000	13.966	291.07345	2.00362	-.05451	-.06344	-.07602	-.04830	-.06872	-.06872			
4.000	15.423	291.10295	2.00382	-.05502	-.06293	-.07703	-.04881	-.06922	-.06922			
4.000	16.833	291.04394	2.00342	-.05501	-.06242	-.07702	-.04931	-.06922	-.06922			
4.000	18.233	290.98493	2.00301	-.05459	-.06140	-.07702	-.04779	-.06922	-.06922			
4.000	19.630	291.00706	2.00316	-.05450	-.06292	-.07702	-.04678	-.06702	-.06702			
4.000	GRADIENT	-.00710	-.00005	.00029	.00013	.00003	.00067	.00000	.00000			

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(SKS005) (21 JUL 81)

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

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REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	XO
LREF	=	474.8100	INCHES	YMRP	=	0.0000	IN.	YO
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN.	ZO
SCALE	=	.0200						

RUN NO.	35/ 0	RN/L	- 2.00	GRADIENT INTERVAL	- -5.00/ 5.00
MACH	ALPHA	Q(PSF)	RN/L	CPC1	CPC2
4.500	-1.248	243.86563	2.00034	-0.3507	-0.04512
4.500	.395	243.93804	2.00093	-0.3388	-0.04513
4.500	2.066	244.01045	2.00153	-0.3328	-0.04454
4.500	3.708	243.86563	2.00034	-0.3326	-0.04512
4.500	5.314	243.86563	2.00034	-0.3266	-0.04512
4.500	6.962	243.79322	1.99974	-0.3325	-0.04451
4.500	8.541	243.93804	2.00093	-0.3368	-0.04574
4.500	10.109	243.86563	2.00034	-0.3447	-0.04633
4.500	11.658	243.79322	1.99974	-0.3506	-0.04632
4.500	13.194	243.72080	1.99915	-0.3505	-0.04692
4.500	14.736	244.08286	2.00212	-0.3510	-0.04756
4.500	16.211	243.72080	1.99915	-0.3505	-0.04753
4.500	17.713	243.86563	2.00034	-0.3507	-0.04633
4.500	19.199	243.93804	2.00093	-0.3508	-0.04694
4.500	20.661	243.93804	2.00093	-0.3568	-0.04755
				.00036	.00004
		GRADIENT	.00443		

PARAMETRIC DATA

(SKS005)	(21 JUL 81)	ELEVON	- .000
		SPDBRK	- 55.000
		AIRRON	- .000
BETA	-	2.000	
BDFLAP	-	.000	
RUDDER	-	.000	

CPB3	- .04578
CPB4	- .05082
CPB1	- .02827
CPB2	- .02829
	- .04639
	- .05083
	- .05023
	- .04640
	- .02770
	- .05952
	- .02827
	- .04639
	- .05022
	- .02827
	- .04639
	- .05082
	- .04638
	- .04760
	- .05143
	- .04889
	- .04948
	- .04820
	- .04880
	- .03007
	- .04880
	- .05142
	- .04879
	- .05202
	- .03006
	- .04879
	- .05265
	- .03012
	- .04942
	- .05262
	- .03067
	- .05000
	- .04880
	- .05203
	- .05002
	- .05203
	- .05002
	- .05264
	- .00011

DATE 21 JUL 81

LAI25 (LARC UPWT 1243)

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LARC UPWT 1243(LAI25)SSV ORBITER 102

REFERENCE DATA

SREF	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	X0		BETA	=	.000	ELEVON	=	.000
LREF	474.8100	INCHES	YMRP	=	.0000	IN.	Y0		BDFLAP	=	.000	SPDBRK	=	.87.200
BREF	936.6800	INCHES	ZMRP	=	375.0000	IN.	Z0		RUDDER	=	.000	AIRRON	=	.0000
SCALE	.0200													

RUN NO. 41 / 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00 / 5.00

MACH	ALPHA	Q(PSF)	RN/L	CPC2	CPB1	CPB2	CPB3	CPB4
4.500	-1.250	243.47735	1.99715	-.03209	-.05368	-.02368	-.04847	-.04927
4.500	.421	243.47735	1.99715	-.03148	-.05368	-.02469	-.04847	-.04927
4.500	2.089	243.47735	1.99715	-.03148	-.05368	-.02549	-.04787	-.04927
4.500	3.723	243.47735	1.99715	-.03098	-.05368	-.02670	-.04787	-.04927
4.500	5.349	243.47735	1.99715	-.03209	-.05428	-.02469	-.04847	-.04987
4.500	7.039	243.40494	1.99656	-.03268	-.05488	-.02669	-.04847	-.04986
4.500	8.560	240.14643	1.96983	-.03217	-.05467	-.02609	-.04878	-.04958
4.500	10.119	244.20146	2.00309	-.03281	-.05553	-.02743	-.04914	-.05053
4.500	11.741	243.04288	1.99359	-.03384	-.05606	-.02784	-.05086	-.05165
4.500	13.236	243.98423	2.00131	-.03398	-.05671	-.02800	-.05153	-.05232
4.500	14.681	242.82535	1.99181	-.03441	-.05725	-.02840	-.05144	-.05224
4.500	16.240	241.73948	1.98290	-.03425	-.05719	-.02882	-.05136	-.05216
4.500	17.688	243.26012	1.99537	-.03266	-.05727	-.02848	-.05148	-.05227
4.500	19.208	243.83941	2.00012	-.03335	-.05731	-.02918	-.05213	-.05231
4.500	20.728	243.54976	1.99775	-.03452	-.05789	-.02974	-.05211	-.05229
	GRADIENT	.00000	.00000	-.00022	-.00011	-.00058	.00014	-.00000

(SKS006) (21 JUL 81)

PARAMETRIC DATA

DATE 21 JUL 81

LA125 (LARC UPNT 1243)

LARC UPNT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	1076.6800 IN. X0
LREF	=	474.8100 INCHES	YMRP	=	.0000 IN. Y0
BREF	=	936.6800 INCHES	ZMRP	=	375.0000 IN. Z0
SCALE	=	.0200			

RUN NO.	43/ 0	RN/L -	2.00	GRADIENT INTERVAL -	-5.00/ 5.00
MACH	Q(PSF)	RN/L	CPC2	CPBI	CPB2
4.500	-1.232	243 54976	1.99775	-.03391	-.05549
4.500	.459	243 47735	1.99775	-.03330	-.05548
4.500	2.114	243 54976	1.99775	-.03391	-.05549
4.500	3.693	243 47735	1.99715	-.03390	-.05608
4.500	5.326	243 62217	1.99834	-.03332	-.05609
4.500	6.941	243 54976	1.99775	-.03391	-.05729
4.500	8.522	243 54976	1.99775	-.03452	-.05729
4.500	10.144	243 54976	1.99775	-.03573	-.05789
4.500	11.664	243 54976	1.99775	-.03633	-.02913
4.500	13.234	243 40494	1.99656	-.03631	-.05849
4.500	14.737	243 62217	1.99834	-.03513	-.05968
4.500	16.208	243 54976	1.99775	-.03512	-.05849
4.500	17.680	243 54976	1.99775	-.03573	-.05969
4.500	19.164	243 62217	1.99834	-.03634	-.05969
4.500	20.615	243 33253	1.99596	-.03691	-.05968
GRADIENT		-.00877	-.00003	-.00011	.00154

(SKS007) (21 JUL 81)

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PARAMETRIC DATA

BETA	=	.000	ELEVON	=	.000
BDFLAP	=	.000	SPDBRK	=	.000
RUDDER	=	.000	AIRRON	=	.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	2690.0000	SO.FT.	XMRP	1076.6800	IN. X0
LREF	.474.8100	INCHES	YMRP	.0000	IN. Y0
BREF	.936.6800	INCHES	ZMRP	.375.0000	IN. Z0
SCALE	.0200				

RUN NO.	42/ 0	RN/L	2.00	GRADIENT INTERVAL = -5.00/ 5.00			
				CPB1	CPB2	CPB3	CPB4
MACH	ALPHA	Q(PSF)	RN/L	CPC2	CPC1	SPDBRK	ELEVON
4.500	-1.274	243.47735	1.99715	-.03330	-.05548	-.02549	-.04847
4.500	.218	243.62217	1.99834	-.03574	-.05789	-.02915	-.05151
4.500	2.164	243.47735	1.99715	-.03330	-.05428	-.02670	-.04847
4.500	3.724	243.33253	1.99596	-.03329	-.05547	-.02607	-.04967
4.500	5.307	243.33253	1.99596	-.03388	-.05547	-.02668	-.04967
4.500	6.951	243.47735	1.99715	-.03269	-.05448	-.02670	-.04986
4.500	8.512	243.40494	1.99656	-.03450	-.05608	-.02790	-.04987
4.500	10.110	243.33253	1.99596	-.03449	-.05608	-.02849	-.04967
4.500	11.646	243.40494	1.99656	-.03571	-.05728	-.02911	-.05088
4.500	13.176	243.54976	1.99775	-.03573	-.05729	-.02913	-.05149
4.500	14.698	243.54976	1.99775	-.03573	-.05849	-.02974	-.05150
4.500	16.235	243.26012	1.99537	-.03629	-.05908	-.02908	-.05229
4.500	17.700	243.62217	1.99834	-.03574	-.05909	-.02915	-.05211
4.500	19.195	243.62217	1.99834	-.03634	-.05909	-.02915	-.05211
4.500	20.653	243.40494	1.99656	-.03631	-.05908	-.02971	-.05230
GRADIENT	- .03530	- .00029	.00017	.0025	.00007	-.00000	.00017

(SKS008) (21 JUL 81)

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DATE 21 JUL 81

LA125 (LARC UPNT 1243)

LARC UPNT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

	SREF	2690.0000 SQ.FT.	XMRP	1076.6800 IN. X0	YMRP	.0000 IN. Y0	ZMRP	.375.0000 IN. Z0
LREF	474.8100 INCHES							
BREF	936.6800 INCHES							
SCALE	.0200							

	RUN NO.	47 / 0	RNL /	2.00	GRADIENT INTERVAL =	-5.00 /	5.00
MACH	BETA	QPSF	RNL	CPC2	CPB1	CPB2	CPB3
4.500	-6.107	243.57290	1.99794	-0.3660	-.05782	-.03365	-.05480
4.500	-4.069	243.50049	1.99734	-.03719	-.05841	-.03364	-.05480
4.500	-3.025	243.42808	1.99675	-.03718	-.05841	-.03362	-.05479
4.500	-2.019	243.35567	1.99615	-.03657	-.05841	-.03422	-.05479
4.500	-1.001	243.57290	1.99794	-.03660	-.05782	-.03365	-.05420
4.500	-538	243.57290	1.99794	-.03660	-.05842	-.03425	-.05480
4.500	-001	243.50049	1.99734	-.03719	-.05961	-.03243	-.05540
4.500	.452	243.21085	1.99497	-.03594	-.05840	-.03359	-.05417
4.500	.981	243.93496	2.00091	-.03665	-.05844	-.03370	-.05422
4.500	2.021	243.64531	1.99953	-.03721	-.05962	-.03366	-.05481
4.500	3.057	243.64531	1.99853	-.03661	-.05842	-.03064	-.05420
4.500	4.021	243.64531	1.99853	-.03721	-.05962	-.03003	-.05541
	GRADIENT	.03264	.00027	.00001	-.00013	-.00041	.00013

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(SKS009) (21 JUL 81)

PARAMETRIC DATA

	ALPHA	16.200	ELEVON	.000
	BDFLAP	.000	SPDBRK	.25 .000
	RUDDER	.000	AIRRON	.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF =	2690.0000	SQ.FT.	XMRP =	1076.6800	IN. X0
LREF =	474.8100	INCHES	YMRP =	.0000	IN. Y0
BREF =	936.6600	INCHES	ZMRP =	375.0000	IN. Z0
SCALE =	.0200				

RUN NO.	3 / 0	RN/L =	2.00	GRADIENT INTERVAL = -5.00 / 5.00			
				BETA	Q(PSF)	RN/L	CPC1
2.500	-5.177	434.24966	1.99721	-.14145	-.14843	-.15329	-.14438
2.500	-4.220	434.55693	1.99862	-.14016	-.14781	-.15604	-.14309
2.500	-3.115	434.81299	1.99980	-.14021	-.14616	-.15507	-.14314
2.500	-2.090	435.04344	2.00096	-.13992	-.14350	-.15209	-.14957
2.500	-1.051	434.99223	2.00063	-.13924	-.13943	-.15073	-.14318
2.500	- .502	434.83859	1.99992	-.13988	-.14007	-.14283	-.14452
2.500	- .012	435.04344	2.00086	-.13925	-.14011	-.15239	-.14077
2.500	- .507	434.53132	1.99851	-.13846	-.14035	-.15310	-.14250
2.500	.986	434.37769	1.99780	-.13809	-.14066	-.15334	-.14240
2.500	2.065	434.60814	1.99866	-.13780	-.14477	-.15433	-.14477
2.500	3.064	434.86420	2.00004	-.13752	-.14685	-.15571	-.14208
2.500	4.123	434.73617	1.99945	-.14831	-.14919	-.15977	-.14177
GRADIENT	- .01186	- .00005	-.00029	-.00018	-.000061	.00020	-.000012

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(SKS010)

(21 JUL 81)

PARAMETRIC DATA

ALPHA =	3.500	ELEVON = .000
BDFLAP =	.000	SPDBRK = .000
RUDER =	.000	AIRRON = .000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT :243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	XO		ALPHA	=	3.900	ELEVON	=	.000	
LREF	474.8100	INCHES	YMRP	=	.0000	IN.	YO		BDFLAP	=	.000	SPDBRK	=	.000	
BREF	936.6800	INCHES	ZMRP	=	375.0000	IN.	ZO		RUDDER	=	.000	AIRRON	=	.000	
SCALE	.0200														

RUN NO.	11 / 0	RNL	=	2.00	GRADIENT INTERVAL	=	-5.00 /	5.00							
MACH	BETA	Q(PSF)	RNL	CPC1	CPC2	CPB1	CPB2	CPB3	CPB4						
3.000	-6.180	380.30452	2.00143	-1.0157	-1.0876	-1.11743	-1.09639	-1.1033	-1.1321						
3.000	-4.077	380.40742	2.00197	-1.0082	-1.0800	-1.1860	-1.09602	-1.0957	-1.1245						
3.000	-3.041	380.61323	2.00305	-0.9969	-1.0725	-1.1708	-1.09567	-1.0844	-1.1093						
3.000	-2.021	380.44172	2.00215	-0.9889	-1.0607	-1.1707	-1.09525	-1.0764	-1.0975						
3.000	-1.007	380.51033	2.00251	-0.9951	-1.0375	-1.1584	-1.09488	-1.0649	-1.0821						
3.000	-.559	380.25306	2.00115	-0.9731	-1.0333	-1.1435	-1.09445	-1.0568	-1.0779						
3.000	.005	380.63038	2.00314	-0.9692	-1.0338	-1.1593	-1.09799	-1.0612	-1.0784						
3.000	.484	380.32167	2.00152	-0.9539	-1.0257	-1.1628	-1.09291	-1.0607	-1.0780						
3.000	1.019	380.35597	2.00170	-0.9501	-1.0335	-1.1667	-1.09292	-1.0608	-1.0819						
3.000	1.992	380.49318	2.00242	-0.9388	-1.0491	-1.1784	-1.09642	-1.0681	-1.0976						
3.000	3.083	380.56178	2.00278	-0.9311	-1.0415	-1.1746	-1.09760	-1.0920	-1.0977						
3.000	4.118	380.51033	2.00251	-1.0045	-1.0840	-1.1707	-1.00330	-1.1074	-1.1131						
		GRADIENT	.000421	.00002	.00057	.00017	.00002	.000037	.000015	.000013					

PARAMETRIC DATA

(SKS011) (21 JUL 81)

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DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	XO
LREF	.474.8100	INCHES	YMRP	=	.00000	IN.	YO
BREF	936.6800	INCHES	ZMRP	=	375.0000	IN.	ZO
SCALE	.0200						

RUN NO.	20 / 0	RN/L	=	2.00	GRADIENT INTERVAL	=	-5.00 / 5.00
MACH	BETA	0 (PSF)	RN/L	CPC1	CPC2	CPC1	CPB3
3.500	-6.171	324.58551	2.00385	-.07275	-.08210	-.09256	CPB2
3.500	-4.100	324.68669	2.00447	-.07095	-.08166	-.09257	CPB4
3.500	-3.086	324.66420	2.0034	-.07231	-.08075	-.09121	-.08350
3.500	-2.054	324.46184	2.00309	-.07183	-.08027	-.09120	-.08260
3.500	-1.045	324.43935	2.00295	-.06956	-.07936	-.09029	-.08550
3.500	-1.542	324.50681	2.00336	-.06821	-.07892	-.08985	-.08459
3.500	.000	324.49556	2.00329	-.07093	-.07891	-.09075	-.08122
3.500	.475	324.65296	2.00427	-.05869	-.07893	-.09121	-.08122
3.500	1.006	324.40562	2.00274	-.06955	-.07890	-.09164	-.08078
3.500	2.016	324.59675	2.00392	-.07049	-.07938	-.09076	-.08076
3.500	3.043	324.51805	2.00343	-.06921	-.07982	-.08985	-.08123
3.500	4.091	324.72042	2.00468	-.07141	-.08121	-.09032	-.08223
	GRADIENT	.00011	.00000	.00011	.00011	.00019	.00006

ALPHA

=

.000

ELEVON

=

.000

SPARK

=

.55

.000

AILRON

=

.000

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(21 JUL 81)

(SKS012) (21 JUL 81)

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITTER 102

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN. X0
LREF	=	474.8100	INCHES	YMRP	=	.0000	IN. Y0
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN. Z0
SCALE	=	.0200					

RUN NO.	27 / 0	RN/L	=	2.00	GRADIENT INTERVAL	=	-5.00 / 5.00
MACH	BETA	Q(PSF)	RN/L	CPC1	CPC2	CPC3	CPB4
4.000	-6.134	290.54234	1.99997	-.05293	-.06136	-.04468	-.06615
4.000	-4.127	290.60873	2.00042	-.05243	-.06137	-.04469	-.06615
4.000	-3.078	290.68987	2.00098	-.05295	-.06087	-.04521	-.06566
4.000	-2.049	290.68250	2.00093	-.05244	-.06087	-.04521	-.06555
4.000	-1.043	290.61611	2.00047	-.05142	-.05985	-.04520	-.06464
4.000	-.502	290.66774	2.00083	-.05143	-.06036	-.04622	-.06464
4.000	-.020	290.57185	2.00017	-.05091	-.05984	-.04671	-.06413
4.000	.473	290.63086	2.00057	-.05142	-.05985	-.04622	-.06464
4.000	1.003	290.64561	2.00068	-.05041	-.05985	-.04571	-.06413
4.000	1.990	290.70462	2.00108	-.05142	-.05986	-.04471	-.06414
4.000	3.033	290.64561	2.00068	-.05143	-.06036	-.04521	-.06413
4.000	4.076	290.74151	2.00134	-.05144	-.06037	-.04573	-.06414
	GRADIENT	.00738	.00005	.00022	.00013	.00006	.00008

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(SKS013) (21 JUL 81)

PARAMETRIC DATA

ALPHA	=	4.300	ELEVON	=	.000
BDFLAP	=	.000	SPDBRK	=	.55.000
RUDDER	=	.000	AILRON	=	.000

DATE 21 JUL 81

LA125 (LARC UPHT 12:3)

LARC UPHT 1243(LA125:SSV ORBITER 102

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN. X0
LREF	=	474.8100	INCHES	YMRP	=	.0000	IN. Y0
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN. Z0
SCALE	=	.0200					

RUN NO.	36 / 0	RN/L	- 2.00	GRADIENT INTERVAL	- 5.00 / 5.00
MACH	BETA	Q(PSF)	RN/L	CPC1	CPB1
4.500	-6.107	243.64839	1.99856	-0.03444	CPB2
4.500	-4.069	243.79322	1.99974	-0.03385	CPB3
4.500	-3.084	243.72080	1.99915	-0.03445	CPB4
4.500	-2.019	243.86563	2.00034	-0.03386	
4.500	-1.038	243.79322	1.99974	-0.03385	
4.500	-1.539	243.57598	1.99796	-0.03442	
4.500	-1.001	243.93804	2.00093	-0.03388	
4.500	.490	243.57598	1.99796	-0.03382	
4.500	.981	243.93804	2.00093	-0.03267	
4.500	2.000	243.72080	1.99915	-0.03022	
4.500	3.019	243.72080	1.99915	-0.03203	
4.500	4.077	243.79322	1.99974	-0.03325	
GRADIENT		- .00222	- .00002	.00030	.00011

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 (SKS014) (21 JUL 81)
 PARAMETRIC DATA

ALPHA	=	4.500	ELEVON	=	.000
BOFLAP	=	.000	SPDBRK	=	.000
RUDDER	=	.000	AIRRON	=	.000

DATE 21 JUL 81

LAI25 (LARC UPWT 1243)

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LARC UPWT 1243(LAI25)SSV ORBITER 102

REFERENCE DATA

SREF	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	X0
LREF	474.8100	INCHES	YMRP	=	.0000	IN.	Y0
BREF	936.6800	INCHES	ZMRP	=	375.0000	IN.	Z0
SCALE	.0200						

RUN NO. 12/ 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q (PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3	CPB4
3.000	-6.183	380.39027	2.00188	-.10352	-.11109	-.11975	-.09486	-.1134	-.11516
3.000	-4.180	380.59608	2.00296	-.10239	-.10995	-.11977	-.09412	-.11230	-.11402
3.000	-3.121	380.40742	2.00197	-.10082	-.10916	-.11860	-.09370	-.11150	-.11361
3.000	-2.003	380.37312	2.00179	-.10043	-.10760	-.11705	-.09331	-.11034	-.11245
3.000	-1.049	380.28737	2.00113	-.09926	-.10527	-.11666	-.09291	-.10639	-.11050
3.000	-.524	380.44172	2.00212	-.09812	-.10413	-.11707	-.09332	-.10725	-.11036
3.000	-.017	380.57893	2.00287	-.09814	-.10492	-.11862	-.10147	-.10766	-.111016
3.000	.539	380.44172	2.00215	-.09657	-.10491	-.11745	-.10029	-.10764	-.110975
3.000	1.037	380.39027	2.00188	-.09850	-.10528	-.11783	-.09989	-.10879	-.111090
3.000	1.991	380.21876	2.00097	-.10156	-.10797	-.11781	-.10064	-.11148	-.11320
3.000	3.082	380.40742	2.00197	-.10314	-.10954	-.11937	-.10067	-.11228	-.11400
3.000	4.134	380.39027	2.00188	-.10429	-.11070	-.11937	-.10066	-.11344	-.11477
	GRADIENT	-.01643	-.00009	-.00008	-.00005	-.00015	-.00015		

(SKS018) (21 JUL 81)

PARAMETRIC DATA

ALPHA	=	7.400	ELEVON	=	.000
BDFLAP	=	.000	SPDBRK	=	.55.000
RUDDER	=	.000	AIRRON	=	.000

DATE 21 JUL 81

LA125 (LARC UPNT 1243)

LARC UPNT 1243(LA125)SSV ORBITER 102

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REFERENCE DATA

SREF	=	2690.00000	SQ.FT.	XMRP	=	1076.6900	IN. X0
LREF	=	474.8100	INCHES	YMRP	=	.0000	IN. Y0
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN. Z0
SCALE	=	.0200					

RUN NO.	21 / 0	RNL =	2.00	GRADIENT INTERVAL = -5.00 / 5.00			
				CPC1	CPC2	CPB1	CPB2
MACH	BETA	Q(PSF)	RNL				
3.500	-6.170	324.55178	2.00364	-.07629	-.08300	-.09391	-.08531
3.500	-4.118	324.63048	2.00413	-.06913	-.08301	-.09301	-.08775
3.500	-3.068	324.48432	2.00322	-.07274	-.08254	-.09300	-.08685
3.500	-2.054	324.59675	2.00392	-.07094	-.08074	-.09211	-.08715
3.500	-1.046	324.48432	2.00322	-.07138	-.08027	-.09210	-.08690
3.500	-54.3	324.77663	2.00503	-.07097	-.07985	-.09212	-.08216
3.500	-0.01	324.60799	2.00399	-.07049	-.07938	-.09166	-.06357
3.500	-492	324.60799	2.00399	-.06823	-.07938	-.09121	-.06853
3.500	.985	324.51805	2.00343	-.06640	-.08028	-.09165	-.08989
3.500	2.033	324.59675	2.00392	-.07230	-.08119	-.09211	-.07124
3.500	3.060	324.45059	2.00302	-.07319	-.08163	-.09255	-.07034
3.500	4.088	324.60799	2.00399	-.07457	-.08256	-.09256	-.06987
GRADIENT	- .01395	-.00002	-.00032	.00006	.00007	-.00056	-.00004

(SKS017) (21 JUL 81)

PARAMETRIC DATA

ALPHA	=	7.700	ELEVON	=	.000
BDFLAP	=	.000	SPDBRK	=	.000
RUDDER	=	.000	AIRRON	=	.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
 LREF = .474-.8000 INCHES YMRP = .0000 IN. YO
 BREF = 936.6800 INCHES ZMRP = 375.0000 IN. ZO
 SCALE = .0200

LARC UPWT 1243(LA125)SSV ORBITER 102

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 (SKS01B) (21 JUL 81)
 PARAMETRIC DATA

RUN NO.	28/ 0	RN/L =	2.00	GRADIENT INTERVAL =	-5.00/ 5.00
MACH	BETA	Q(PSF)	RN/L	CPC1	CPB1
4.000	-6.110	290.80052	2.00174	.05296	-.06189
4.000	-4.105	290.76364	2.00149	.05296	-.06189
4.000	-3.076	290.71200	2.00113	.05295	-.06189
4.000	-2.028	290.59398	2.00032	.05243	-.06086
4.000	-1.043	290.68250	2.00093	.05194	-.05986
4.000	-.542	290.70462	2.00108	.05093	-.05986
4.000	-.020	290.74151	2.00134	.05043	-.06037
4.000	.511	290.81527	2.00184	.05044	-.06038
4.000	1.004	290.74151	2.00134	.05043	-.06037
4.000	2.007	290.73413	2.00129	.05144	-.06087
4.000	3.031	290.68987	2.00098	.05194	-.06138
4.000	4.055	290.54234	1.99997	.05242	-.06136
GRADIENT		-.00907	-.00006	.00015	.00002
				.00005	.00005
				.00002	.00012

ALPHA	B100	ELEVON	CPB4
BOFLAP	.000	SPDRK	.06668
RUDDER	.000	AIRRON	.06667

DATE 21 JUL 81

LA125 (LARC UPHT 1243)

REFERENCE DATA

SREF = 2690.0000 SQ.FT.
 LREF = 474.8100 INCHES
 BREF = 936.6800 INCHES
 SCALE = .0200

LARC UPHT 1243(LA125)SSV ORBITER 102

PAGE 64
(SKS019) (21 JUL 81)

PARAMETRIC DATA

	ALPHA =	BDFLAP =	ELEVON =
	.0.500	.000	.000
	SPDRK =	AILRON =	
	.55.000	.000	
	.000		
RUN NO.	37 / 0	RN/L =	2.00 GRADIENT INTERVAL = -5.00 / 5.00
MACH	BETA	Q(IPSF)	RN/L CPC1 CPC2 CPB1 CPB2 CPB3 CPB4
4.500	-6.104	243.7922	1.99974 -.03446 -.04572 -.06190 -.02826 -.04759 -.05142
4.500	-4.068	243.72080	1.99915 -.03384 -.04632 -.06250 -.02825 -.04818 -.05141
4.500	-3.063	243.64839	1.99856 -.03504 -.04631 -.06250 -.02884 -.04878 -.05201
4.500	-2.019	243.86563	2.0034 -.03447 -.04512 -.06191 -.02827 -.04759 -.05142
4.500	-1.020	243.86563	2.00034 -.03386 -.04573 -.06191 -.02888 -.04699 -.05142
4.500	-53.9	243.73322	1.99974 -.03446 -.04512 -.06190 -.02826 -.04759 -.05142
4.500	-0.020	243.86563	2.00034 -.03447 -.04573 -.06131 -.02827 -.04759 -.05142
4.500	.489	243.64839	1.99856 -.03383 -.04631 -.06190 -.02944 -.04757 -.05141
4.500	.999	244.045	2.00153 -.03328 -.04514 -.06191 -.02890 -.04761 -.05144
4.500	2.017	243.64839	1.99856 -.03444 -.04269 -.06190 -.02944 -.04818 -.05141
4.500	3.017	243.93804	2.00093 -.03448 -.04091 -.06191 -.02889 -.04820 -.05143
4.500	4.075	243.72080	1.99915 -.03445 -.04390 -.06190 -.02885 -.04818 -.05141
GRADIENT		.00822	.00007 .00050 .00007 .00009 -.00000 -.00000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	=	2690.0000 SQ. FT.	XMRP	=	1076.6800 N. XO				
LREF	=	474.8100 INCHES	YMRP	=	.0000 N. YO				
BREF	=	936.6800 INCHES	ZMRP	=	375.0000 N. ZO				
SCALE	=	.0200							

RUN NO. 5/ 0 RNL = 2.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	Q(PSF)	RNL	CPC1	CPC2	CPC3	CPC4
2.500	-6.222	434.35208	1.99768	-1.5704	-1.5793	-1.6509	-1.6033
2.500	-4.164	434.86420	2.00004	-1.5307	-1.5396	-1.6382	-1.6182
2.500	-3.120	435.04344	2.00086	-1.5276	-1.5331	-1.6217	-1.5920
2.500	-2.055	434.60814	1.99886	-1.4931	-1.5019	-1.5908	-1.5869
2.500	-1.054	434.94102	2.00039	-1.4869	-1.4957	-1.6047	-1.5712
2.500	-.529	434.68496	1.99921	-1.4830	-1.4952	-1.6077	-1.5616
2.500	-.016	434.73617	1.99945	-1.4798	-1.5055	-1.6179	-1.5578
2.500	.485	434.96662	2.00051	-1.4802	-1.5059	-1.6216	-1.5647
2.500	1.064	434.68496	1.99921	-1.4763	-1.5054	-1.6245	-1.5617
2.500	2.043	434.19845	1.99698	-1.4720	-1.5045	-1.6271	-1.5429
2.500	3.081	434.68496	1.99921	-1.5169	-1.5291	-1.6447	-1.5740
2.500	4.159	434.86420	2.00004	-1.5476	-1.5599	-1.6551	-1.5951
	GRADIENT	- .03203	-.00015	.00003	-.00014	-.00038	-.00013
						-.000201	-.00010

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(SKS020) (21 JUL 81)

PARAMETRIC DATA

ALPHA	=	9.800	ELEVON	= .000
BDFLAP	=	.000	SPDBRK	= .000
RUDDER	=	.000	AIRLN	= .000

DATE 21 JUL 81

LAI125 (LARC UPWT 1243)

LARC UPWT 1243(LAI125)SSV ORBITER 102

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN. XO
LREF	=	474.8100	INCHES	YMRP	=	.0000	IN. YO
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN. ZO
SCALE	=	.0200					

PARAMETRIC DATA			
ALPHA	=	10.700	ELEVON
BDFLAP	=	.000	SPDBRK
RUDDER	=	.000	ATLRN

RUN NO.	1.3 / 0	RNL / -	2.00	GRADIENT INTERVAL = -5.00/ 5.00
MACH	BETA	Q(PSF)	RNL	CPC1
3.000	-6.201	380.42057	2.00206	-1.0932
3.000	-4.159	380.49318	2.00242	-1.0933
3.000	-3.101	380.66169	2.00332	-1.0819
3.000	-2.024	380.64753	2.00323	-1.0703
3.000	-1.069	380.68184	2.00341	-1.0549
3.000	-.524	380.61323	2.00305	-1.0510
3.000	-.017	380.52748	2.00260	-1.0470
3.000	.538	380.44712	2.00215	-1.0314
3.000	.996	380.49318	2.00242	-1.0160
3.000	2.008	380.54463	2.00269	-1.0084
3.000	3.039	380.75044	2.00377	-1.0010
3.000	4.112	380.73329	2.00368	-1.0666
GRADIENT			.00006	.00084
			.00002	.00024

			CPC2	CPB1	CPB2	CPB3	CPB4
			-1.11535	-1.12513	-1.10802	-1.11847	-1.12019
			-1.11574	-1.12476	-1.10726	-1.11809	-1.12019
			-1.11499	-1.12362	-1.10651	-1.11695	-1.11905
			-1.11421	-1.12285	-1.10573	-1.11618	-1.11628
			-1.11306	-1.12285	-1.10458	-1.11541	-1.11628
			-1.11266	-1.12285	-1.10379	-1.11501	-1.11789
			-1.11188	-1.12361	-1.10301	-1.11500	-1.11749
			-1.11107	-1.12321	-1.10183	-1.11499	-1.11710
			-1.11149	-1.12322	-1.10068	-1.11538	-1.11671
			-1.11227	-1.12438	-1.10030	-1.11616	-1.11711
			-1.11307	-1.12401	-1.09956	-1.11696	-1.11790
			-1.11500	-1.12324	-1.09956	-1.11812	-1.11983
			.00002	.000108	.000000	.000000	.000015

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(SKS021) (21 JUL 81)

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

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LARC UPWT 1243 (LA125) SSV ORBITER 102
(SKS022) (21 JUL 81)

REFERENCE DATA

SREF	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	X0	
LREF	474.8100	INCHES	YMRP	=	.0000	IN.	Y0	
BREF	936.6800	INCHES	ZMRP	=	375.0000	IN.	Z0	
SCALE	.0200							
MACH	BETA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3
3.500	-6.150	323.91095	1.99969	-.07856	-.08657	-.09747	-.07388	-.08797
3.500	-4.119	323.88846	1.99955	-.07810	-.08702	-.09747	-.07479	-.08797
3.500	-3.087	323.77604	1.99885	-.07718	-.08611	-.09701	-.07432	-.08796
3.500	-2.035	323.79852	1.99899	-.07492	-.08520	-.09656	-.07387	-.08950
3.500	-1.047	323.92219	1.99975	-.07402	-.08476	-.09702	-.07297	-.08951
3.500	- .526	323.80977	1.99906	-.07310	-.08429	-.09657	-.07296	-.08950
3.500	-.003	323.80977	1.99906	-.07083	-.08384	-.09566	-.07205	-.08615
3.500	.492	323.66361	1.99816	-.06945	-.08337	-.09610	-.07158	-.08613
3.500	.988	323.71982	1.99851	-.07445	-.08337	-.09656	-.07249	-.08659
3.500	2.014	323.79852	1.99899	-.07537	-.08429	-.09656	-.07341	-.08705
3.500	3.041	323.89971	1.99962	-.07674	-.08521	-.09612	-.07252	-.08752
3.500	4.087	323.74231	1.99984	-.07763	-.08555	-.09746	-.07113	-.08796
GRADIENT			-.00005	.00006	.00019	.00006	.00036	.00000

PARAMETRIC DATA

	ALPHA	=	11.300	ELEVON	=	.000	
	BDFLAP	=	.000	SPDBRK	=	.55.000	
	RUDDER	=	.000	AILRON	=	.000	
RUN NO.	22 / 0	RN/L	=	2.00	GRADIENT INTERVAL	=	-5.00 / 5.00
MACH	BETA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2
3.500	-6.150	323.91095	1.99969	-.07856	-.08657	-.09747	-.07388
3.500	-4.119	323.88846	1.99955	-.07810	-.08702	-.09747	-.07479
3.500	-3.087	323.77604	1.99885	-.07718	-.08611	-.09701	-.07432
3.500	-2.035	323.79852	1.99899	-.07492	-.08520	-.09656	-.07387
3.500	-1.047	323.92219	1.99975	-.07402	-.08476	-.09702	-.07297
3.500	- .526	323.80977	1.99906	-.07310	-.08429	-.09657	-.07296
3.500	-.003	323.80977	1.99906	-.07083	-.08384	-.09566	-.07205
3.500	.492	323.66361	1.99816	-.06945	-.08337	-.09610	-.07158
3.500	.988	323.71982	1.99851	-.07445	-.08337	-.09656	-.07249
3.500	2.014	323.79852	1.99899	-.07537	-.08429	-.09656	-.07341
3.500	3.041	323.89971	1.99962	-.07674	-.08521	-.09612	-.07252
3.500	4.087	323.74231	1.99984	-.07763	-.08555	-.09746	-.07113
GRADIENT			-.00005	.00006	.00019	.00006	.00036

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LA125 (LARC UPWT 1243)

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LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA						PARAMETRIC DATA					
SREF	2690.0000	SQ.FT.	XMRP	-	1076.6800	IN. X0	ALPHA	-	11.600	ELEVON	.000
LREF	474.8100	INCHES	YMRP	-	375.0000	IN. Y0	BDFLAP	-	.000	SPDBRK	.000
BREF	936.6800	INCHES	ZMRP	-	375.0000	IN. Z0	RUDDER	-	.000	AIRRON	.000
SCALE	.0200										
MACH	BETA	0.1PSF)	RN/L	-	2.00	GRADIENT INTERVAL	-	-5.00/	5.00		
4.000	-6.149	290.51284	1.99976	-.05444		CPC1	CPC2	CPB1	CPB2	CPB3	CPB4
4.000	-4.086	290.65294	1.99976	-.05495				-.06389	-.04975	-.06546	-.06969
4.000	-3.077	290.65299	2.00073	-.05396				-.07700	-.05025	-.06546	-.06969
4.000	-2.049	290.64561	2.00068	-.05395				-.06340	-.05027	-.06547	-.06919
4.000	-1.044	290.74151	2.00134	-.05447				-.06340	-.05027	-.06547	-.06869
4.000	-542	290.68250	2.00093	-.05396				-.06341	-.05027	-.06547	-.06869
4.000	-022	290.71200	2.00113	-.05295				-.06289	-.04926	-.06548	-.06869
4.000	.491	290.68987	2.00098	-.05194				-.06340	-.04926	-.06548	-.06869
4.000	.983	290.72675	2.00123	-.05093				-.06239	-.04927	-.06497	-.06869
4.000	2.026	290.74151	2.00134	-.04942				-.06239	-.04927	-.06497	-.06869
4.000	3.030	290.78577	2.00164	-.04841				-.06290	-.04927	-.06497	-.06869
4.000	4.073	290.75626	2.00144	-.04739				-.06290	-.04927	-.06497	-.06869
GRADIENT	.02515	.00017	.00098	.00009				-.06341	-.04927	-.06548	-.06869
									.00006	.00005	.00010

(SKS023) (21 JUL 81)

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

	SREF	LREF	BREF	SCALE	XMRP	YMRP	ZMRP	XO	YO	ZO
	2690.0000	.0000 SO. FT.			1076.6800	IN.				
	474.8100	INCHES			.0000	IN.				
	936.6800	INCHES			375.0000	IN.				
	.0200									

RUN NO.	38/ 0	RN/L	2.00	GRADIENT INTERVAL =	-5.00/ 5.00
MACH	BETA	Q(PSF)	RN/L	CPC1	CPC2
4.500	-6.103	243.64839	1.99856	-.03685	-.04752
4.500	-4.069	243.93804	2.00093	-.03568	-.04694
4.500	-3.063	243.72080	1.99915	-.03505	-.04813
4.500	-2.020	243.79322	1.99974	-.03627	-.04753
4.500	-1.020	244.01045	2.00153	-.03569	-.04695
4.500	- .521	243.93804	2.00093	-.03568	-.04694
4.500	- .002	243.93804	2.00093	-.03388	-.04634
4.500	.509	244.01045	2.00153	-.03268	-.04635
4.500	.999	244.01045	2.00153	-.03449	-.04635
4.500	2.017	243.93804	2.00093	-.03508	-.04755
4.500	3.016	244.01045	2.00153	-.03569	-.04755
4.500	4.074	243.93804	2.00093	-.03508	-.04694
	GRADIENT	.01942	.00016	.00009	.00004

(SKS024) (21 JUL 81)

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PARAMETRIC DATA

	ALPHA	12.400	ELEVON =	.000
	BDFLAP	.000	SPDBRK =	.000
	RUDDER	.000	AILRDN =	.000

DATE 21 JUL 81

LA125 (LARC UPNT 1243)

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LARC UPNT 1243(LA1125)SSV ORBITER 102

(SKS025) (21 JUL 81)

REFERENCE DATA

SREF	2690.0000 SQ.FT.	XMRP	1076.6800 IN. X0	ALPHA	12.900 ELEVON = .000
LREF	474.8100 INCHES	YMRP	0000 IN. Y0	BDFLAP	SPDBRK = .55.000
BREF	936.6800 INCHES	ZMRP	375.0000 IN. Z0	RUDDER	AIRRON = .000
SCALE	.0200				

PARAMETRIC DATA

RUN NO.	6 / 0	RNL =	2.00	GRADIENT INTERVAL = -5.00 / 5.00					
MACH	BETA	Q(PSF)	RNL	CPC1	CPC2	CPB1	CPB2	CPB3	CPB4
2.500	-6.226	435.06904	2.00098	-16257	-16312	-17259	-16620	-16518	-16802
2.500	-4.168	434.53132	1.99851	-16147	-16135	-16983	-16510	-16443	-16726
2.500	-3.084	434.42890	1.99803	-16112	-16167	-16914	-16475	-16407	-16793
2.500	-2.078	434.58253	1.99874	-16046	-16034	-16883	-16477	-16172	-16592
2.500	-1.058	434.63374	1.99998	-15980	-15866	-16917	-16376	-16072	-16423
2.500	-508	434.50572	1.99839	-15910	-15864	-16915	-16341	-16036	-16388
2.500	.000	434.55693	1.99862	-15505	-15831	-16903	-15935	-16104	-16388
2.500	.482	434.09602	1.99650	-15870	-15857	-16977	-16267	-16165	-16449
2.500	1.063	434.50572	1.99839	-15842	-15897	-16949	-16239	-16273	-16489
2.500	2.062	434.86420	2.00004	-15713	-16072	-16954	-16143	-16448	-16461
2.500	3.081	434.78738	1.99968	-15678	-16139	-17054	-16108	-16582	-16561
2.500	4.100	434.73617	1.99945	-15643	-16138	-16966	-16039	-16619	-16560
		GRADIENT	.03405	.00016	.000066	.000000	.000010	.00032	.00024

DATE 21 JUL 81

LAI25 (LARC UPWT 1243)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.
LREF	=	474.8100 INCHES
BREF	=	936.6800 INCHES
SCALE	=	.0200

LARC UPWT 1243(LAI25)SSV ORBITER 102

PARAMETRIC DATA (SKS026) (21 JUL 81)						
	ALPHA	ELEVON	SPDBRK	AIRDN		
	BDFLAP					
RUN NO.	14 / 0	RNL =	2.00	GRADIENT INTERVAL =	-5.00 /	5.00
MACH	BETA	Q(PSF)	RNL	CPC1	CPC2	CPB1
3.000	-6.287	380.66469	2.00332	-.11051	-.11847	CPB4
3.000	-4.143	380.59608	2.00296	-.11166	-.11730	-.10922
3.000	-3.124	380.73329	2.00368	-.11052	-.11616	-.11075
3.000	-2.066	380.68184	2.00341	-.10697	-.11538	-.10884
3.000	-1.072	380.63038	2.00314	-.10780	-.11421	-.12785
3.000	-1.546	380.76759	2.00386	-.10705	-.11384	-.10728
3.000	-0.019	380.61323	2.00305	-.10819	-.11576	-.12747
3.000	.479	380.69899	2.00350	-.10395	-.1151	-.10691
3.000	1.014	380.63038	2.00314	-.10317	-.11073	-.12708
3.000	1.951	380.90480	2.00458	-.10707	-.11463	-.12746
3.000	3.060	380.36178	2.00278	-.10934	-.11614	-.12784
3.000	4.094	380.68184	2.00341	-.11013	-.11173	-.12823
GRADIENT	.01357	.00002	.00032	.00010	.00000	-.12060
						.00033
						-.00057
						.00033

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DATE 21 JUL 81

LA125 (LARC UPNT 1243)

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	XO
LREF	=	474.8100	INCHES	YMRP	=	.0000	IN.	YO
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN.	ZO
SCALE	=	.0200						

RUN NO.	23 / 0	RNL	=	2.00	GRADIENT INTERVAL	=	-5.00 /	5.00
HACH	BETA	Q(PSF)	RNL	CPC1	CPC2	CPC3	CPB1	CPB2
3.500	-6.155	323.92219	1.99575	-0.07947	-0.08748	-0.0928	-0.07070	-0.09360
3.500	-4.082	324.03462	2.00045	-0.07903	-0.08749	-0.09884	-0.06936	-0.09315
3.500	-3.088	324.10207	2.00086	-0.07949	-0.08750	-0.09884	-0.06846	-0.09270
3.500	-2.036	324.07959	2.00073	-0.07858	-0.08704	-0.09839	-0.07390	-0.08444
3.500	-1.031	324.19201	2.00142	-0.07814	-0.08660	-0.09704	-0.07483	-0.08800
3.500	-5.45	324.07959	2.00073	-0.07767	-0.08568	-0.09658	-0.07390	-0.08799
3.500	-.021	324.05710	2.00059	-0.07722	-0.08522	-0.09658	-0.07299	-0.08753
3.500	.492	324.18077	2.00135	-0.07633	-0.08569	-0.09704	-0.07165	-0.08600
3.500	.987	324.07959	2.00073	-0.07495	-0.08568	-0.09703	-0.07027	-0.08799
3.500	2.034	323.96716	2.00053	-0.07403	-0.08658	-0.09793	-0.06934	-0.09133
3.500	3.041	324.05710	2.00059	-0.07676	-0.08659	-0.09839	-0.06800	-0.08935
3.500	4.088	324.04586	2.00052	-0.07812	-0.08704	-0.09974	-0.06981	-0.09026
GRADIENT		-.00613	-.00004	.00040	.00003	.00003	-.00023	-.00014

LARC UPNT 1243(LA125)SSV ORBITER 102

(SKS027) (21 JUL 81)

PARAMETRIC DATA

SREF	=	14.800	ELEVON	=	,000
LREF	=	.000	SPDBRK	=	55.000
BREF	=	.000	AIRLON	=	,000
SCALE	=				

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LA125 (LARC UPT 1243)

LARC UPNT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

	SREF	LREF	BREF	ZREF	SO.FT.	XMRP	YMRP	ZMRP	IN.	XO	IN.	YO	IN.	ZO
	2690.0000	474.8100	936.6800	.0200		1076.6800	0.0000	375.0000	IN.	XO	IN.	YO	IN.	ZO

(SKS028) (21 JUL 81)

PARAMETRIC DATA

	ALPHA	15.400	ELEVON	.000
	BDFLAP	.000	SPDBRK	.000
	RUDDER	.000	AIRRON	.000

	RUN NO.	30 / 0	RNL /	2.00	GRADIENT INTERVAL =	-5.00/	5.00
MACH	BETA	Q(PSF)	RNL	CPC1	CPC2	CPB1	CPB2
4.000	-6.154	290.66774	2.00083	-.05345	-.06543	-.04926	CPB4
4.000	-4.107	290.69725	2.00103	-.05497	-.06492	-.04775	-.07122
4.000	-3.096	290.77839	2.00159	-.05498	-.06493	-.04674	-.0713
4.000	-2.010	290.93329	2.00266	-.05551	-.06494	-.04575	-.07123
4.000	-1.025	290.88166	2.00230	-.05449	-.06494	-.04524	-.06650
4.000	-0.524	290.79314	2.00169	-.05347	-.06442	-.04472	-.06599
4.000	-.021	290.70462	2.00108	-.05194	-.06340	-.04319	-.06598
4.000	.531	290.67086	2.00057	-.05193	-.06340	-.04267	-.06597
4.000	.984	290.56447	2.00012	-.05040	-.06288	-.04823	-.06597
4.000	1.989	290.58660	2.00027	-.05243	-.06339	-.04874	-.06648
4.000	3.030	290.65299	2.00073	-.05345	-.06390	-.04875	-.06699
4.000	4.055	290.64561	2.00068	-.05446	-.06441	-.04976	-.06749
GRADIENT		-.02699	-.00019	.00029	.00018	-.00035	-.00001

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LA125 (LARC UPNT 1243)

LARC UPNT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	2690.0000	SQ.FT.	XMRP	=	1076.6800	I.N.	XO
LREF	474.8100	INCHES	YMRP	=	.0000	I.N.	YO
BREF	936.6800	INCHES	ZMRP	=	375.0000	I.N.	ZO
SCALE	.0200						

RUN NO.	39 / 0	RNL	- 2.00	GRADIENT INTERVAL = -5.00 / 5.00					
MACH	BETA	Q(PSF)	RNL	CPC1	CPC2	CPB1	CPB2	CPB3	CPB4
.500	-6.105	243.79322	1.99974	-.03627	-.04874	-.06430	-.03249	-.05061	-.05383
.500	-4.069	244.08286	2.00212	-.03631	-.04756	-.06431	-.03072	-.04942	-.05325
.500	-3.063	243.86583	2.0034	-.03628	-.04694	-.06371	-.03069	-.04941	-.05323
.500	-2.020	244.15527	2.00271	-.03571	-.04757	-.06371	-.03074	-.04943	-.05325
.500	-1.021	243.93804	2.00093	-.03568	-.04755	-.06371	-.03070	-.04941	-.05264
.500	-521	244.0.045	2.00153	-.03569	-.04695	-.06311	-.03071	-.04942	-.05204
.500	-.002	244.0.045	2.00153	-.03509	-.04695	-.06371	-.03011	-.04942	-.05204
.500	.489	244.08286	2.00212	-.03510	-.04696	-.06371	-.02891	-.04942	-.05265
.500	.999	243.79322	1.99974	-.03627	-.04753	-.06430	-.03007	-.05000	-.05262
.500	2.017	244.15527	2.00271	-.03591	-.04757	-.06371	-.02953	-.04943	-.05205
.500	3.035	243.93804	2.00093	-.03207	-.04755	-.06431	-.03010	-.05002	-.05264
.500	4.075	244.08286	2.00212	-.03209	-.04756	-.06431	-.03012	-.05003	-.05204
GRADIENT	.00186	.00001	.00053	-.00003	-.00004	.00013	-.00008	.00014	

(SKS029) (21 JUL 81)

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PARAMETRIC DATA

ALPHA	=	16.200	ELEVON	=	000
BDFLAP	=	.000	SPDBRK	=	55.000
RUDDER	=	.000	A1LDRN	=	.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

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LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	X0
LREF	=	474.8100	INCHES	YMRP	=	.0000	IN.	Y0
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN.	Z0
SCALE	=	.0200						

RUN NO.	7 / 0	RN/L	=	2.00	GRADIENT INTERVAL	=	-5.00 /	5.00
MACH	BETA	Q (PSF)	RN/L	CPC1	CPC2	CPC3	CPB2	CPB4
2.500	-6.237	434.63374	1.99898	-1.5946	-1.6035	-1.17220	-.15868	-.16478
2.500	-4.174	435.01783	2.00074	-1.6020	-1.6143	-.16889	-.16213	-.16484
2.500	-3.109	434.81299	1.99980	-1.6287	-1.6512	-.17222	-.16887	-.16869
2.500	-2.043	434.83859	1.99992	-1.6321	-1.6444	-.17223	-.16718	-.17170
2.500	-1.059	434.96662	2.00051	-1.6255	-1.6379	-.17325	-.16720	-.16684
2.500	-4.93	434.42890	1.99803	-1.6213	-1.6371	-.17352	-.16585	-.17003
2.500	-0.19	434.63374	1.99898	-1.6115	-1.6306	-.17220	-.16546	-.16577
2.500	.502	434.53132	1.99861	-1.6080	-1.6237	-.17151	-.16510	-.16614
2.500	1.042	434.65935	1.99999	-1.6082	-1.6205	-.17119	-.16478	-.16895
2.500	2.044	434.58253	1.99874	-1.6013	-1.6407	-.17253	-.16477	-.16648
2.500	3.084	434.86420	2.00004	-1.5916	-1.6580	-.17492	-.16782	-.16964
2.500	4.163	434.86420	2.00004	-1.5916	-1.6309	-.17458	-.16380	-.16820
GRADIENT		-.01974	-.00009	.00038	-.00009	.00045	.0024	-.00032

(SKS030) (21 JUL 81)

PARAMETRIC DATA

ALPHA	=	15.900	ELEVON	=	.000
BDFLAP	=	.000	SPDBRK	=	.55.000
RUDDER	=	.000	AIRRON	=	.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

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 LARC UPWT 1243(LA125)SSV ORBITER 102
 (SKS031) (21 JUL 81)

REFERENCE DATA

SREF	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN.	X0
LREF	474.8100	INCHES	YMRP	=	.0000	IN.	Y0
BREF	936.6800	INCHES	ZMRP	=	375.0000	IN.	Z0
SCALE	.0200						

RUN NO.	15/ 0	RNL -	2.00	GRADIENT INTERVAL =	-5.00/ 5.00				
MACH	BETA	Q(PSF)	RNL	CPC1	CPC2	CPB1	CPB2	CPB3	CPB4
3.000	-6.233	380.97340	2.00495	-11094	-11928	-12825	-11042	-12124	-12526
3.000	-4.166	380.56178	2.00278	-11127	-11885	-12860	-11036	-12158	-12522
3.000	-3.107	380.71614	2.00359	-11013	-11925	-12862	-11077	-12198	-12562
3.000	-2.067	380.57893	2.00287	-10934	-11923	-12822	-11075	-12274	-12561
3.000	-1.035	380.47603	2.00233	-10817	-11922	-12744	-10996	-12235	-12493
3.000	-.566	380.88765	2.00449	-10784	-11888	-12748	-11002	-12239	-12448
3.000	-.001	380.52748	2.00260	-11088	-11884	-12783	-10958	-12197	-12406
3.000	.499	380.59608	2.00296	-11012	-11846	-12745	-10921	-12197	-12407
3.000	.997	380.71614	2.00359	-11090	-11770	-12862	-10922	-12198	-12409
3.000	2.029	380.73329	2.00368	-11168	-11770	-12900	-10961	-12315	-12408
3.000	3.063	380.71614	2.00359	-11052	-11848	-12977	-10961	-12314	-12408
3.000	4.097	380.85335	2.00431	-10976	-11810	-12978	-10924	-12316	-12332
	GRADIENT	.02498	.00013	-.00006	.00006	-.00016	.00017	-.00016	.00026

PARAMETRIC DATA

ALPHA	=	17.200	ELEVON	=	55.000
BDFLAP	=	.000	SPDBRK	=	.000
RUDDER	=	.000	AIRRON	=	.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

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LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN. X0
LREF	474.8100	INCHES	YMRP	=	0.0000	IN. Y0
BREF	936.6800	INCHES	ZMRP	=	375.0000	IN. Z0
SCALE	.0200					

RUN NO.	24 / 0	RN/L *	2.00	GRADIENT INTERVAL ■	-5.00/ 5.00
MACH	BETA	Q (PSF)	RN/L	CPC1	CPC2
3.500	-6.160	324.3044	2.00211	-.08042	-.09888
3.500	-4.104	324.18077	2.00135	-.07995	-.09796
3.500	-3.090	324.32693	2.00225	-.07906	-.08797
3.500	-2.039	324.10207	2.00086	-.07949	-.08795
3.500	-1.050	324.37190	2.00253	-.07952	-.08798
3.500	-546	324.09083	2.00080	-.07949	-.08795
3.500	-.022	324.23698	2.00170	-.07951	-.08796
3.500	.492	324.22574	2.00163	-.07996	-.08842
3.500	1.008	324.22574	2.00163	-.07996	-.08842
3.500	2.035	324.29320	2.00204	-.07951	-.08797
3.500	3.043	324.25947	2.00184	-.07906	-.08797
3.500	4.091	324.30444	2.00211	-.07906	-.08752
GRADIENT				.00005	.00002
				.00006	.00012
				.00960	.00017

PARAMETRIC DATA

ALPHA ■

BDFLAP ■

RUDDER ■

ELEVON ■

SPDBRK ■

ATLRON ■

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(SKS032) (21 JUL 81)

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DATE 21 JUL 81

LA125 (LARC UPWT 1243)

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN. X0
LREF	=	474.8100	INCHES	YMRP	=	375.0000	IN. Y0
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN. Z0
SCALE	=	.0200					

RUN NO. 31 / 0 RN/L = 2.01

MACH	BETA	Q(PSF)	RN/L	CPC1	CPC2	CPB1	CPB2	CPB3	CPB4
4.000	-6.142	290.65299	2.00073	-.05598	-.06593	-.07902	-.05230	-.06800	-.07172
4.000	-4.071	290.89641	2.00240	-.05601	-.06595	-.07903	-.05182	-.06751	-.07174
4.000	-3.080	290.91116	2.00250	-.05550	-.06544	-.07652	-.05132	-.06701	-.07174
4.000	-2.031	290.81527	2.00184	-.05600	-.06544	-.07902	-.05131	-.06751	-.07173
4.000	-1.046	290.80789	2.00179	-.05519	-.06544	-.07852	-.05131	-.06751	-.07173
4.000	-524	290.80789	2.00179	-.05519	-.06544	-.07852	-.05131	-.06751	-.07123
4.000	-002	287.23771	1.97722	-.05558	-.06514	-.07890	-.05083	-.06775	-.07100
4.000	.492	291.18409	2.00438	-.05553	-.06547	-.07854	-.05135	-.06753	-.07075
4.000	.984	290.42432	1.99915	-.05545	-.06490	-.07851	-.05126	-.06697	-.07019
4.000	1.833	290.94805	2.00276	-.05560	-.06494	-.07853	-.05082	-.06701	-.07073
4.000	3.033	291.45702	2.00626	-.05557	-.06493	-.07855	-.04937	-.06756	-.07026
4.000	4.078	291.29474	2.00514	-.05504	-.06447	-.07854	-.05036	-.06754	-.07025
		GRADIENT	.05277	.00036	.00014	.00005	.00021	.00001	.00023

LARC UPWT 1243(LA125)SSV ORBITER 102

(SKS033) (21 JUL 81)

PARAMETRIC DATA

ALPHA	=	19.000	ELEVON	=	.000
BDFLAP	=	.000	SPDBRK	=	.55.000
RUDDER	=	.000	AILRDN	=	.000

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DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	1076.6800	IN. X0
LREF	=	474.8100	INCHES	YMRP	=	375.0000	IN. Y0
BREF	=	936.6800	INCHES	ZMRP	=	375.0000	IN. Z0
SCALE	=	.0200					

RUN NO.	40 / 0	RN/L =	2.00	GRADIENT INTERVAL = -5.00 / 5.00			
				CPC1	CPC2	CPB1	CPB2
MACH	BETA	Q(PSF)	RN/L				
4.500	-6.128	243.93804	2.00093	-0.3689	-0.04936	-.06551	-.02768
4.500	-4.071	244.15527	2.00271	-0.3632	-0.04757	-.06431	-.03013
4.500	-3.065	244.08286	2.00212	-0.3631	-0.04816	-.06491	-.03133
4.500	-2.022	244.08286	2.00212	-0.3570	-0.04816	-.06491	-.03133
4.500	-1.021	244.15527	2.00271	-0.3511	-0.04696	-.06431	-.03074
4.500	-.522	244.01045	2.00153	-0.3449	-0.04695	-.06431	-.03132
4.500	-.003	244.15527	2.00271	-0.3571	-0.04757	-.06371	-.03134
4.500	.508	243.86563	2.00034	-0.3567	-0.04754	-.06371	-.03069
4.500	.998	243.93804	2.00093	-0.3568	-0.04815	-.06431	-.03130
4.500	2.017	244.01045	2.00153	-0.3630	-0.04755	-.06431	-.03132
4.500	3.036	243.93804	2.00093	-0.3629	-0.04755	-.06431	-.03130
4.500	4.076	244.01045	2.00153	-0.3569	-0.04755	-.06431	-.03071
GRADIENT	-0.2351	-0.0019	.000090	.00003	.00003	-.00004	-.00007

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(SKS034) (21 JUL 81)

PARAMETRIC DATA

ALPHA	=	20.000
BDLAP	=	.000
RUDDER	=	.000
AIRRON	=	.000

.000

DATE 21 JUL 81

LA125 (LARC UPWT 1243)

LARC UPWT 1243(LA125)SSV ORBITER 102

REFERENCE DATA

SREF	2690 0000	SQ.FT.	XMRP	=	1076.6800	IN. X0
LREF	474.8100	INCHES	YMRP	=	.0000	IN. Y0
BREF	936.6800	INCHES	ZMRP	=	375.0000	IN. Z0
SCALE	.0200					

RUN NO. 44 / 0 RN/L = 2.00 GRADIENT INTERVAL = -5.00 / 5.00

MACH	BETA	Q(PSF)	RN/L	CPC2	CPB1	CPB2	CPB3	CPB4
4.500	-6.124	243.54976	1.99775	-.03754	-.06029	-.03216	-.05331	-.05410
4.500	-4.125	243.33253	.99596	-.03812	-.06148	-.03213	-.05451	-.05469
4.500	-3.062	243.62217	1.99834	-.03695	-.06029	-.03035	-.05332	-.05350
4.500	-2.059	243.69458	1.99893	-.03575	-.06030	-.03097	-.05332	-.05351
4.500	-1.021	243.69458	1.99893	-.03635	-.05970	-.03097	-.05332	-.05351
4.500	-54.0	243.54976	1.99775	-.03633	-.05969	-.03155	-.05271	-.05350
4.500	-0.80	243.69458	1.99893	-.03696	-.06030	-.03157	-.05332	-.05351
4.500	-470	243.69458	1.99893	-.03696	-.06030	-.03097	-.05272	-.05291
4.500	.940	243.40494	1.99656	-.03752	-.06028	-.03213	-.05331	-.05409
4.500	2.055	243.54976	1.99775	-.03754	-.06089	-.03095	-.05271	-.05350
4.500	2.995	243.47735	1.99715	-.03813	-.06149	-.03154	-.05391	-.05410
4.500	3.956	243.54976	1.99775	-.03814	-.06149	-.03216	-.05392	-.05410
	GRADIENT	-.00095	-.00001	-.00014	-.00009	-.00003	.00002	.00001

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PARAMETRIC DATA

ALPHA	=	16.200	ELEVON	=	.000
BFFLAP	=	.000	SPDBRK	=	.000
RUDER	=	.000	AIRRON	=	.000